

Table 2.

U37464	8515	Q62862	8516	U71088	8517	Q13163	8518	91.52	MEK5alpha-2 (MEK5)		U37464 Rattus norvegicus MEK5alpha-2 (MEK5) mRNA, complete cds /cds=(87,1403) /gb=U37464 /gi=1016335 /ug=Rn.11054 /len=1742	"CYTOPLAS MIC (FOR MEK5-BETA) AND PARTICULA TE (MEK5- ALPHA). THE ALTERNATI VELY SPLICED EXON IN ALPHA ISOFORM RESEMBLE CONSERVE D SEQUENCE S THAT MEDIATE INTERACTIO NS WITH THE CYTOSKELE TON,	Dual specificity mitogen- activated protein kinase kinase 5(EC 2.7.1.-) (MAP kinase 5) (MAPKK 5) (MAPK/ERK kinase 5).
U38253	8519	P70541	8520	BC018728	8521	Q9NR50	8522	88.59	Rattus norvegicus initiation factor eIF-2B gamma subunit (eIF- 2B gamma) mRNA, complete cds	A1639441	U38253 Rattus norvegicus initiation factor eIF-2B gamma subunit (eIF-2B gamma) mRNA, complete cds /cds=(88,1446) /gb=U38253 /gi=1537014 /ug=Rn.10577 /len=1470	Translation initiation factor eIF-2B gamma subunit (eIF-2B GDP- GTPexchange factor).	
U38253	8523	P70541	8524	BC018728	8525	Q9NR50	8526	88.59	Rattus norvegicus initiation factor eIF-2B gamma subunit (eIF- 2B gamma)		U38253 Rattus norvegicus initiation factor eIF-2B gamma subunit (eIF-2B gamma) mRNA, complete cds /cds=(88,1446) /gb=U38253 /gi=1537014 /ug=Rn.10577 /len=1470	Translation initiation factor eIF-2B gamma subunit (eIF-2B GDP- GTPexchange factor).	

Table 2.

U38253	8527	P70541	8528	BC018728	8529	Q9NR50	8530	88.59	Rattus norvegicus initiation factor eIF-2B gamma subunit (eIF-2B gamma) mRNA, complete cds /cds=(88,1446) /gb=U38253 /gi=1537014 /ug=Rn.10577 /len=1470	U38253 Rattus norvegicus initiation factor eIF-2B gamma subunit (eIF-2B gamma) mRNA, complete cds /cds=(88,1446) /gb=U38253 /gi=1537014 /ug=Rn.10577 /len=1470		Translation initiation factor eIF-2B gamma subunit (eIF-2B GDP-GTPexchange factor).
U38376	8531	P50393	8532	M68874	8533	P47712	8534	88.92	Rattus norvegicus cytosolic phospholipase A2 mRNA, complete cds /cds=(172,2430) /gb=U38376 /gi=1143304 /ug=Rn.10162 /len=2838	U38376 Rattus norvegicus cytosolic phospholipase A2 mRNA, complete cds /cds=(172,2430) /gb=U38376 /gi=1143304 /ug=Rn.10162 /len=2838	CYTOPLASMIC. TRANSLOCATED TO MEMBRANE VESICLES IN A CALCIUM-DEPENDENT FASHION.	Cytosolic phospholipase A2 (CPLA2) [Includes: Phospholipase A2 (EC 3.1.1.4) (Phosphatidylcholine 2-acylhydrolase); Lysophospholipase (EC 3.1.1.5)].
U38801	8535	P06766	8536	M13140	8537	P06746	8538	89.55	high molecular weight DNA polymerase beta (mpolb) mRNA, complete cds /cds=(7,1014) /gb=U38801 /gi=1055329 /ug=Rn.9346 /len=3257	U38801 Rattus norvegicus high molecular weight DNA polymerase beta (mpolb) mRNA, complete cds /cds=(7,1014) /gb=U38801 /gi=1055329 /ug=Rn.9346 /len=3257		DNA polymerase beta (EC 2.7.7.7).
U39044	8539	Q62871	8540	AF250307	8541	Q13409	8542	85	Rattus norvegicus cytoplasmic dynein intermediate chain 2C mRNA, complete cds	U39044 Rattus norvegicus cytoplasmic dynein intermediate chain 2A mRNA, complete cds /cds=(70,1986) /gb=U39044 /gi=1151090 /ug=Rn.11014 /len=2538		"Dynein intermediate chain 2, cytosolic (DH IC-2) (Cytoplasmic dynein intermediate chain 2)." .
U39572	8543	AAD10400	8544	AK024034	8545	P42356	8546	93.91	Phosphatidylinositol 4-kinase	U39572 RNU39572 Rattus norvegicus phosphatidylinositol 4-kinase mRNA, complete cds		

Table 2.

U41845	8547	O08587	8548	NM_007172	8549	Q9UKX7	8550	85.95	Nuclear pore associated protein		U41845 Rattus norvegicus putative nuclear pore complex protein (Npap60) mRNA, complete cds /cds=(320,1465) /gb=U41845 /gi=1915964 /ug=Rn.3242 /len=2994	"Nuclear. Localizes to the nucleoplasmic c fibrils of the nuclear pore complex. In the testis, the localization changes during germ cell differentiation; from the nuclear surface in spermatocytes to the"	Nucleoporin 50 kDa (Nuclear pore-associated protein 60 kDa-like).
U42413	8551	P80385	8552	U42412	8553	P54619	8554	88.77	Rattus norvegicus 5'-AMP-activated protein kinase, gamma-1 subunit		U42413 Rattus norvegicus 5 -AMP-activated protein kinase, gamma-1 subunit mRNA, complete cds /cds=(0,971) /gb=U42413 /gi=1335859 /ug=Rn.11089 /len=1550		"5'-AMP-activated protein kinase, gamma-1 subunit (AMPK gamma-1 chain)(AMPKg).".
U42627	8555	Q64346	8556	XM_017018		XP_017018		83	dual-specificity protein tyrosine phosphatase		U42627 Rattus norvegicus dual-specificity protein tyrosine phosphatase (rVH6) mRNA, complete cds /cds=(360,1505) /gb=U42627 /gi=1185551 /ug=Rn.4313 /len=2104	Cytoplasmic.	Dual specificity protein phosphatase 6 (EC 3.1.3.48) (EC 3.1.3.16)(Mitogen-activated protein kinase phosphatase 3) (MAP kinase phosphatase 3) (MKP-3).
U42719	8557	AAA91231	8558	NM_007293	8559	P01028	8560	87	Complement component 4		U42719 Rattus norvegicus C4 complement protein mRNA, partial cds /cds=(0,317) /gb=U42719 /gi=1213489 /ug=Rn.24913 /len=347		

Table 2.

U42976	8561	P12392	8562	U48861	8563	P30926	8564	91.12	Rattus norvegicus neuronal nicotinic acetylcholine receptor subunit beta4 mRNA, complete cds		U42976 Rattus norvegicus neuronal nicotinic acetylcholine receptor subunit beta4 mRNA, complete cds /cds=(60,1547) /gb=U42976 /gi=1150980 /ug=Rn.9695 /len=2461	Integral membrane protein.	"Neuronal acetylcholine receptor protein, beta-4 chain precursor(Neural acetylcholine receptor non-alpha-2 chain) (N-alpha 2)."
U44948	8565	Q62908	8566	U46006	8567	Q16527	8568	92.95	Rattus norvegicus smooth muscle cell LIM protein (SmLIM) mRNA, complete cds		U44948 Rattus norvegicus smooth muscle cell LIM protein (SmLIM) mRNA, complete cds /cds=(54,635) /gb=U44948 /gi=1314350 /ug=Rn.4267 /len=847	Nuclear.	Smooth muscle cell LIM protein (Cysteine-rich protein 2) (CRP2).
U47316	8569	AAH03736	8570	AF041432	8571	O43617	8572	93.39	Mus musculus, Bet3 homolog	BC003736	U47316 RNU47316 Rat R2 cerebellum DDRT-T-PCR Rattus norvegicus cDNA clone LIAREST-2, mRNA sequence [Rattus norvegicus]		
U48246	8573	Q62919	8574	U57523	8575	Q92832	8576	87.46	Protein kinase C-binding protein NELL1		U48246 Rattus norvegicus protein kinase C-binding protein Nel-homolog protein mRNA, partial cds /cds=(0,1298) /gb=U48246 /gi=1199664 /ug=Rn.10695 /len=1697	Secreted.	Protein kinase C binding protein NELL1 precursor (NEL-like protein 1).
U48246	8577	Q62919	8578	U57523	8579	Q92832	8580	87.46	Protein kinase C-binding protein NELL1		U48246 Rattus norvegicus protein kinase C-binding protein Nel-homolog protein mRNA, partial cds /cds=(0,1298) /gb=U48246 /gi=1199664 /ug=Rn.10695 /len=1697	Secreted.	Protein kinase C binding protein NELL1 precursor (NEL-like protein 1).
U48592	8581	AA03502	8582	AF029213	8583	NP_002173	8584	86.86	Interleukin-1 receptor accessory protein		U48592 Rattus norvegicus interleukin-1 receptor accessory protein (IL-1) mRNA, complete cds /cds=(102,1814) /gb=U48592 /gi=1403699 /ug=Rn.10511 /len=1862		

Table 2.

U48596	8585	Q62925	8586	XM_042066	8587	XP_042066	8588	81	MAP kinase kinase kinase 1 (MEKK1)		U48596 Rattus norvegicus MAP kinase kinase kinase 1 (MEKK1) mRNA, complete cds /cds=(515,4996) /gb=U48596 /gi=1354136 /ug=Rn.11081 /len=5180	MEMBRANE ASSOCIATE D.	Mitogen- activated protein kinase kinase 1 (EC 2.7.1.-) (MAPK/ERK kinase kinase 1) (MEK kinase 1) (MEKK 1).
U48596	8589	Q62925	8590	XM_042066	8591	XP_042066	8592	81	MAP kinase kinase kinase 1 (MEKK1)		U48596 Rattus norvegicus MAP kinase kinase kinase 1 (MEKK1) mRNA, complete cds /cds=(515,4996) /gb=U48596 /gi=1354136 /ug=Rn.11081 /len=5180	MEMBRANE ASSOCIATE D.	Mitogen- activated protein kinase kinase 1 (EC 2.7.1.-) (MAPK/ERK kinase kinase 1) (MEK kinase 1) (MEKK 1).
U49058	8593	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			CTD-binding SR-like protein rA4 mRNA (alternatively spliced no protein added here)		U49058 Rattus norvegicus CTD-binding SR- like protein rA4 mRNA, partial cds /cds=UNKNOWN /gb=U49058 /gi=1438535 /ug=Rn.10531 /len=4180		
U49062	8594	Q07490	8595	AI860750	8596	No Human Protein Found.		84.52	heat stable antigen CD24		U49062 Rattus norvegicus heat sle antigen CD24 mRNA, complete cds /cds=(59,289) /gb=U49062 /gi=1216497 /ug=Rn.6007 /len=1703	Attached to the membrane by a GPI- anchor.	Signal transducer CD24 precursor (Heat stable antigen) (HSA)(Nectadrin).
U49062	8597	Q07490	8598	AI860750	8599	No Human Protein Found.		84.52	heat stable antigen CD24		U49062 Rattus norvegicus heat sle antigen CD24 mRNA, complete cds /cds=(59,289) /gb=U49062 /gi=1216497 /ug=Rn.6007 /len=1703	Attached to the membrane by a GPI- anchor.	Signal transducer CD24 precursor (Heat stable antigen) (HSA)(Nectadrin).

Table 2.

U49099	8600	Q62931	8601	AF073926	8602	O95249	8603	90.84	Golgi SNAP receptor complex member 1		U49099 Rattus norvegicus cis-Golgi p28 (p28) mRNA, complete cds /cds=(9,761) /gb=U49099 /gi=1354151 /ug=Rn.6390 /len=2412	TYPE IV MEMBRANE PROTEIN. ENRICHED ON VESICULAR COMPONENTS AT THE TERMINAL RIMS OF THE GOLGI.	28 kDa Golgi SNARE protein (Golgi SNAP receptor complex member 1)(28 kDa cis-Golgi SNARE p28) (GOS-28).
U49953	8604	P35465	8605	XM_034970		XP_034970		92	protein kinase MUK2		U49953 Rattus norvegicus protein kinase MUK2 mRNA, complete cds /cds=(388,2022) /gb=U49953 /gi=1399507 /ug=Rn.9149 /len=2539		Serine/threonine protein kinase PAK 1 (EC 2.7.1.-) (p21-activated kinase 1) (PAK-1) (P68-PAK) (Alpha-PAK) (Protein kinase MUK2).
U50185	8606	AAA92961	8607	XM_006578	8608	XP_006578	8609	79	Rattus norvegicus kidney protein phosphatase 1 myosin binding subunit mRNA, partial cds		U50185 RNU50185 Rattus norvegicus kidney protein phosphatase 1 myosin binding subunit mRNA, partial cds		
U50185	8610	AAA92961	8611	XM_028840	8612	XP_028840	8613	37	protein phosphatase 1	AA800549	U50185 RNU50185 Rattus norvegicus kidney protein phosphatase 1 myosin binding subunit mRNA, partial cds		
U50185	8614	AAA92961	8615	XM_006578	8616	XP_006578	8617	79	Rattus norvegicus kidney protein phosphatase 1 myosin binding subunit mRNA, partial cds		U50185 RNU50185 Rattus norvegicus kidney protein phosphatase 1 myosin binding subunit mRNA, partial cds		

Table 2.

U50185	8618	AAA92961	8619	XM_028840	8620	XP_028840	8621	37	protein phosphatase 1	AA800549	U50185 RNU50185 Rattus norvegicus kidney protein phosphatase 1 myosin binding subunit mRNA, partial cds		
U50353	8622	AAC99551	8623	NM_021010	8624	NP_066290	8625	35	defensin 3a (RatNP-3a)		U50353mRNA RNU50353 Rattus norvegicus defensin 3a (RatNP-3a) gene, complete cds		
U50412	8626	Q63787	8627	XM_043865	8628	XP_043865	8629	87	Phosphoinositide 3-kinase p85	NM_013005	U50412 Rattus norvegicus phosphoinositide 3-kinase regulatory subunit p85alpha mRNA, alternatively spliced, complete cds /cds=(94,1368) /gb=U50412 /gi=1621037 /ug=Rn.10599 /len=1563	Phosphatidylinositol 3-kinase regulatory alpha subunit (PI3-kinase p85-subunit) (PtdIns-3-kinase p85-alpha) (PI3K).	
U50736	8630	A44437	8631	BF081129	8632	A57291		93.88	Cardiac ankyrin repeat protein		U50736 RNU50736 Rattus norvegicus cardiac adriamycin responsive protein mRNA, complete cds		
U51013	8633	AAC52683	8634	AF082324	8635	NP_006860	8636	87.96	Centaurin alpha		U51013 Rattus norvegicus centaurin alpha mRNA, complete cds /cds=(112,1371) /gb=U51013 /gi=1435194 /ug=Rn.10539 /len=2424		
U52530	8637	AAC53050	8638	M29366	8639	P21860	8640	70	erbB3 proto-oncogene		U52530 RNU52530 Rattus norvegicus erbB3 proto-oncogene mRNA, partial cds		
U52663	8641	AAC05607	8642	AF010472	8643	P19021	8644	88	peptidylglycine alpha-amidating monooxygenase (PAM) gene		U52663mRNA#3 RATPAM27 Rattus norvegicus peptidylglycine alpha-amidating monooxygenase (PAM) gene, exon 26		
U52950	8645	AAB17068	8646	NM_005909	8647	NP_005900	8648	89	Microtubule-associated protein 1B mRNA		U52950 RNU52950 Rattus norvegicus microtubule-associated protein 1B mRNA, partial cds		
U52950	8649	CAC16162	8650	L06237	8651	AAA18904	8652		Microtubule-associated protein 1B	X60370	U52950 RNU52950 Rattus norvegicus microtubule-associated protein 1B mRNA, partial cds		
U52950	8653	AAB17068	8654	NM_005909	8655	NP_005900	8656	89	Microtubule-associated protein 1B mRNA		U52950 RNU52950 Rattus norvegicus microtubule-associated protein 1B mRNA, partial cds		
U52950	8657	CAC16162	8658	L06237	8659	AAA18904	8660		Microtubule-associated protein 1B	X60370	U52950 RNU52950 Rattus norvegicus microtubule-associated protein 1B mRNA, partial cds		

Table 2.

U53184	8661	No Rat Protein Found.	AB034747	8662	Q99732	8663	83.41	estrogen-responsive uterine mRNA	AI237535	U53184 Rattus norvegicus estrogen-responsive uterine mRNA, partial sequence /cds=UNKNOWN /gb=U53184 /gi=1279978 /ug=Rn.6940 /len=2006		
NM_030999	8664	NP_112261	L23332	8666	P34998	8667	86	Rattus norvegicus corticotropin releasing factor receptor	U53486	U53486mRNA RNCRFR 1 Rattus norvegicus corticotropin releasing factor receptor gene, exon 1		
U53706	8668	Q62967	NM_002461	8670	P53602	8671	78	mevalonate pyrophosphate decarboxylase		U53706 Rattus norvegicus mevalonate pyrophosphate decarboxylase mRNA, complete cds /cds=(42,1247) /gb=U53706 /gi=1297191 /ug=Rn.10288 /len=1674		Diphosphomevalonate decarboxylase (EC 4.1.1.33) (Mevalonate pyrophosphate decarboxylase) (Mevalonate (diphospho) decarboxylase).
U53922	8672	P54102	BC008182	8674	P31689	8675	92.97	DnaJ-like protein (RDJ1) mRNA, complete cds		U53922 Rattus norvegicus DnaJ-like protein (RDJ1) mRNA, complete cds /cds=(121,1314) /gb=U53922 /gi=1294829 /ug=Rn.10276 /len=1610	Membrane-bound.	DnaJ homolog subfamily A member 1 (Heat shock 40 kDa protein 4) (DnaJ protein homolog 2) (HSJ-2).
U54632	8676	P50550	U29092	8678	P50550	8679	93.2	Ubiquitin conjugating enzyme E2l		U54632 RNU54632 Rattus norvegicus ubiquitin-conjugating enzyme UbcE2A mRNA, complete cds		Ubiquitin-like protein SUMO-1 conjugating enzyme (EC 6.3.2.19) (SUMO-1-protein ligase) (Ubiquitin carrier protein) (Ubiquitin-conjugating enzyme UbcE2A) (P18).

Table 2.

U54632	8680	P50550	8681	U29092	8682	P50550	8683	93.2	Ubiquitin conjugating enzyme E2l		U54632 RNU54632 Rattus norvegicus ubiquitin-conjugating enzyme UbcE2A mRNA, complete cds		Ubiquitin-like protein SUMO-1 conjugating enzyme (EC 6.3.2.19) (SUMO-1- protein ligase) (Ubiquitin carrier protein) (Ubiquitin- conjugating en- zyme UbcE2A) (P18).
U55815	8684	AAC52 634	8685	AK024493	8686	NP_005 063	8687	92.81	Solute carrier family 12, member 4		U55815 Rattus norvegicus furosemide- sensitive K-Cl cotransporter (KCC1) mRNA, complete cds /cds=(0.3257) /gb=U55815 /gi=1403706 /ug=Rn.10512 /len=3726		
U55815	8688	AAC52 634	8689	AK024493	8690	NP_005 063	8691	92.81	Furosemide- sensitive K-Cl cotransporter	U75395	U55815 Rattus norvegicus furosemide- sensitive K-Cl cotransporter (KCC1) mRNA, complete cds /cds=(0.3257) /gb=U55815 /gi=1403706 /ug=Rn.10512 /len=3726		
U55815	8692	AAC52 634	8693	AK024493	8694	NP_005 063	8695	92.81	Solute carrier family 12, member 4		U55815 Rattus norvegicus furosemide- sensitive K-Cl cotransporter (KCC1) mRNA, complete cds /cds=(0.3257) /gb=U55815 /gi=1403706 /ug=Rn.10512 /len=3726		
U56839	8696	P41232	8697	BC012104	8698	P41231	8699	87	Purinergic receptor P2Y, G-protein coupled 2		U56839 Rattus norvegicus P2u receptor protein mRNA, complete cds /cds=(141,1265) /gb=U56839 /gi=1336124 /ug=Rn.11102 /len=1688	Integral membrane protein.	P2Y purinoceptor 2 (P2Y2) (P2U purinoceptor 1) (P2U1) (ATP receptor)(Purine receptor).
U56862	8700	Q62981	8701	AL542378	8702	Q15072	8703	89.47	Pancreas zinc finger protein		U56862 RNU56862 Rattus norvegicus pancreas only zinc finger protein (POZF-1) mRNA, complete cds	Nuclear .	Zinc finger protein OZF (POZF-1).

Table 2.

U57391	8704	AAC52 601	8705	AB037720	8706	AAF739 12	8707	89.47	FcεRI gamma-chain interacting protein SH2-B		U57391 Rattus norvegicus FcεRI gamma-chain interacting protein SH2-B (SH2-B) mRNA, complete cds /cds=(343,2613) /gb=U57391 /gi=1354854 /ug=Rn.11069 /len=3003			
U57391	8708	AAC52 601	8709	AB037720	8710	AAF739 12	8711	89.47	FcεRI gamma-chain interacting protein SH2-B		U57391 Rattus norvegicus FcεRI gamma-chain interacting protein SH2-B (SH2-B) mRNA, complete cds /cds=(343,2613) /gb=U57391 /gi=1354854 /ug=Rn.11069 /len=3003			
U57715	8712	AAB070 50	8713	XM_05287 1		XP_052 871		88	FGF receptor activating protein FRAG1		U57715 Rattus norvegicus FGF receptor activating protein FRAG1 (FRAG1) mRNA, complete cds /cds=(722,1486) /gb=U57715 /gi=1518608 /ug=Rn.11001 /len=1719			
U59241	8714	AAC52 855	8715	M77016	8716	P28289	8717	89.04	E-Tropomodulin		U59241 Rattus norvegicus E-tropomodulin mRNA, complete cds /cds=(49,1128) /gb=U59241 /gi=1628560 /ug=Rn.10605 /len=1353			
U59241	8718	AAC52 855	8719	M77016	8720	P28289	8721	89.04	E-Tropomodulin		U59241 Rattus norvegicus E-tropomodulin mRNA, complete cds /cds=(49,1128) /gb=U59241 /gi=1628560 /ug=Rn.10605 /len=1353			
U59672	8722	AAB182 93	8723	AJ003078	8724	P46098	8725	84.68	5-Hydroxytryptamine (serotonin) receptor 3A		U59672 Rattus norvegicus 5HT3 receptor mRNA, complete cds /cds=(347,1780) /gb=U59672 /gi=1389902 /ug=Rn.761 /len=2230			
U59672	8726	AAB182 93	8727	AJ003078	8728	P46098	8729	84.68	5-Hydroxytryptamine (serotonin) receptor 3A		U59672 Rattus norvegicus 5HT3 receptor mRNA, complete cds /cds=(347,1780) /gb=U59672 /gi=1389902 /ug=Rn.761 /len=2230			
U60578	8730	AAC53 104	8731	NM_0000 67	8732	P00918	8733	80	Carbonic anhydrase II	NM_01929 1	U60578cds RNCAL18 Rattus norvegicus carbonic anhydrase II gene, exon 7 and partial cds			
U60882	8734	Q63009	8735	AK026786	8736	XP_046 320	8737	93.07	protein arginine N-methyltransferase		U60882 Rattus norvegicus protein arginine N-methyltransferase (PRMT1) mRNA, complete cds /cds=(2,1063) /gb=U60882 /gi=1390024 /ug=Rn.5870 /len=1201	Nuclear .	Protein arginine N-methyltransferase 1 (EC 2.1.1.-).	

Table 2.

U61184	8738	P41739	8739	AF001307	8740	P27540	8741	92.25	Aryl hydrocarbon receptor nuclear translocator 1		U61184 Rattus norvegicus aryl hydrocarbon receptor nuclear translocator 1 (Arnt1) mRNA, complete cds /cds=(8,2410) /gb=U61184 /gi=1418281 /ug=Rn.10520 /len=2431	Nuclear.	"Aryl hydrocarbon receptor nuclear translocator (ARNT protein) (Dioxinreceptor, nuclear translocator) (Hypoxia- inducible factor 1 beta)(HIF-1 beta)."
U61373	8742	Q63645	8743	BC012453	8744	P55085	8745	83.71	proteinase- activated receptor-2		U61373 Rattus norvegicus proteinase- activated receptor-2 mRNA, complete cds /cds=(0,1193) /gb=U61373 /gi=1480687 /ug=Rn.10543 /len=1428	Integral membrane protein.	Proteinase activated receptor 2 precursor (PAR- 2) (Thrombin receptor-like 1) (Coagulation factor II receptor like 1).
U61729	8746	AAB090 57	8747	AW97444 1	8748	NP_006 804	8749	91.26	Rattus norvegicus proline rich protein mRNA, complete cds	AI235492	U61729 Rattus norvegicus proline rich protein mRNA, complete cds /cds=(175,984) /gb=U61729 /gi=1408276 /ug=Rn.10967 /len=1619		
U62316	8750	Q63344	8751	AF058056	8752	O60669	8753	82.72	Solute carrier family 16 (monocarboxyl ic acid transporters), member 7		U62316 Rattus norvegicus monocarboxylate transporter 2 (MCT2) mRNA, complete cds /cds=(234,1703) /gb=U62316 /gi=1432166 /ug=Rn.10524 /len=2481	Integral membrane protein. Plasma membrane.	Monocarboxylate transporter 2 (MCT 2).

Table 2.

U62316	8754	Q63344	8755	AF058056	8756	O60669	8757	82.72	Solute carrier family 16 (monocarboxylic acid transporters), member 7		U62316 Rattus norvegicus monocarboxylate transporter 2 (MCT2) mRNA, complete cds /cds=(234,1703) /gb=U62316 /gi=1432166 /ug=Rn.10524 /len=2481	Integral membrane protein. Plasma membrane.	Monocarboxylate transporter 2 (MCT 2).
U62635	8758	AAB05795	8759	U26596	8760	NP_066957	8761	84.8	ribosomal protein L23-related product		U62635 RRU62635 Rattus rattus ribosomal protein L23-related product homolog (rL23MRP) mRNA, complete cds		
U63740	8762	P97577	8763	U60060	8764	Q99689	8765	92.59	Synaptotagmin binding zygini		U63740 Rattus norvegicus synaptotagmin binding zygini mRNA, complete cds /cds=(154,1335) /gb=U63740 /gi=1778068 /ug=Rn.5468 /len=1683	INTRACELLULAR. TRANSLOCATED FROM THE PLASMA MEMBRANE TO THE CYTOPLASM BY ACTIVATION OF THE PKC ZETA.	Fasciculation and elongation protein zeta 1 (Zygin I).
U63972	8766	Q63652	8767	NM_001708	8768	P03999	8769	87.23	Blue cone opsin-like pigment		U63972 Rattus norvegicus blue cone opsin-like pigment mRNA, complete cds /cds=(48,1088) /gb=U63972 /gi=1488319 /ug=Rn.10549 /len=1690	Integral membrane protein.	Blue-sensitive opsin (Blue cone photoreceptor pigment).
U64030	8770	P70583	8771	NM_001948	8772	P33316	8773	87	dUTPase		U64030 Rattus norvegicus dUTPase mRNA, complete cds /cds=(13,624) /gb=U64030 /gi=1654341 /ug=Rn.6102 /len=928	CYTOPLASMIC. BINDING TO PPAR INDUCES TRANSLOCATION TO THE NUCLEUS.	Deoxyuridine 5'-triphosphate nucleotidohydrolyase (EC 3.6.1.23)(dUTPase) (dUTPase) (dUTPase) (PPAR-interacting protein 4) (PIP4).

Table 2.

U64689	8774	P97578	8775	U69140	8776	Q9UHY8	8777	84	Rattus norvegicus zygine-related protein type II (Zp2) mRNA, partial cds		U64689 RNU64689 Rattus norvegicus synaptotagmin interacting protein zygini mRNA, partial cds		Fasciculation and elongation protein zeta 2 (Zygin II) (Zygin-related protein types I/II) (Fragment).
U65007	8778	P97523	8779	U11813	8780	P08581	8781	92.61	Met proto-oncogene		U65007 Rattus norvegicus hepatocyte growth factor receptor mRNA, complete cds /cds=(0,4148) /gb=U65007 /gi=1679659 /ug=Rn.10617 /len=4189	Type I membrane protein.	Hepatocyte growth factor receptor precursor (EC 2.7.1.112) (Met proto-oncogene tyrosine kinase) (c-met) (HGF receptor) (HGF-SF receptor).
U65217	8782	AAB39559	8783	M16276	8784	P01919	8785	72	class II antigen RT1.B beta chain		U65217 Rattus norvegicus MHC class II antigen RT1.B beta chain mRNA, partial cds /cds=(0,590) /gb=U65217 /gi=1762639 /ug=Rn.16105 /len=620		
U65417	8786	AAB49752	8787	NM_006143	8788	NP_006134	8789	92	Rattus norvegicus G protein-coupled receptor (GPR19) gene, partial cds		U65417 cds RNU65417 Rattus norvegicus G protein-coupled receptor (GPR19) gene, partial cds		
U65656	8790	P33436	8791	AU123141	8792	P05455	8793	90.29	Rattus norvegicus gelatinase A mRNA, complete cds		U65656 Rattus norvegicus gelatinase A mRNA, complete cds /cds=(291,2279) /gb=U65656 /gi=1813502 /ug=Rn.6422 /len=3040	*	72 kDa type IV collagenase precursor (EC 3.4.24.24) (72 kDagelatinase) (Matrix metalloproteinase-2) (MMP-2) (Gelatinase A).

Table 2.

U66470	8794	AAC52 950	8795	U66468	8796	XP_002 427	8797	80.05	cell growth regulator rCGR11		U66470 Rattus norvegicus cell growth regulator rCGR11 mRNA, complete cds /cds=(59,904) /gb=U66470 /gi=1724074 /ug=Rn.10638 /len=1257		
U66471	8798	AAC52 951	8799	U66469	8800	NP_006 559	8801	87.88	Rattus norvegicus cell growth regulator rCGR19 mRNA, complete cds		U66471 Rattus norvegicus cell growth regulator rCGR19 mRNA, complete cds /cds=(100,1098) /gb=U66471 /gi=1724076 /ug=Rn.11138 /len=1265		
U66471	8802	AAC52 951	8803	U66469	8804	NP_006 559	8805	87.88	Rattus norvegicus cell growth regulator rCGR19 mRNA, complete cds		U66471 Rattus norvegicus cell growth regulator rCGR19 mRNA, complete cds /cds=(100,1098) /gb=U66471 /gi=1724076 /ug=Rn.11138 /len=1265		
U66478	8806	P97588	8807	U59423	8808	Q15797	8809	98	MAD (mothers against decapentaplegic, Drosophila) homolog 1		U66478 Rattus norvegicus mothers against dpp 1 homolog (Mad1) mRNA, complete cds /cds=(315,1721) /gb=U66478 /gi=1710128 /ug=Rn.10635 /len=2002	IN THE CYTOPLAS M IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXE D WITH SMAD4 .	Mothers against decapentaplegic homolog 1 (SMAD 1) (Mothers againstDPP homolog 1).
U66478	8810	P97588	8811	U59423	8812	Q15797	8813	98	MAD (mothers against decapentaplegic, Drosophila) homolog 1		U66478 Rattus norvegicus mothers against dpp 1 homolog (Mad1) mRNA, complete cds /cds=(315,1721) /gb=U66478 /gi=1710128 /ug=Rn.10635 /len=2002	IN THE CYTOPLAS M IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXE D WITH SMAD4 .	Mothers against decapentaplegic homolog 1 (SMAD 1) (Mothers againstDPP homolog 1).

Table 2.

U67081	8814	AAB407 18	8815	AK057398	8816	AAF140 51	8817	93.21	C2-HC type zinc finger protein r-MyT2 mRNA		U67081 Rattus norvegicus C2-HC type zinc finger protein r-MyT2 mRNA, complete cds /cds=(0,2448) /gb=U67081 /gi=1531646 /ug=Rn.10559 /len=2812			
U67140	8818	P97839	8819	XM_02863 4		XP_028 634		73	PSD- 95/SAP90- associated protein-4		U67140 Rattus norvegicus PSD-95/SAP90- associated protein-4 mRNA, complete cds /cds=(204,3182) /gb=U67140 /gi=1864092 /ug=Rn.11279 /len=3348	Membrane- associated		Disks large- associated protein 4 (DAP- 4) (SAP90/PSD- 95- associated protein n 4) (SAPAP4) (PSD-95/SAP90 binding protein 4).
U67207	8820	S74225		U52912	8821	P48357	8822	78	Leptin receptor (fatty)		U67207 RNU67207 Rattus norvegicus leptin receptor (OB-R) mRNA, partial cds			
U67910	8823	P27435	8824	M30038	8825	P15157	8826	86.21	Mast cell protease 7 (RMCP-7)		U67910 Rattus norvegicus mast cell protease 7 (RMCP-7) mRNA, complete cds /cds=(216,1037) /gb=U67910 /gi=1698699 /ug=Rn.10699 /len=1222	RELEASED FROM THE SECRETORY GRANULES UPON MAST CELL ACTIVATION		"Mast cell protease 7 precursor (EC 3.4.21.59) (RMCP-7) (Tryptase, skin)."
U67915	8827	P09650	8828	M69136	8829	P23946	8830	85	Mast cell protease 1 precursor		U67915 Rattus norvegicus mast cell protease 1 precursor (RMCP-1) mRNA, complete cds /cds=(27,809) /gb=U67915 /gi=1698709 /ug=Rn.10701 /len=1018			Mast cell protease 1 precursor (EC 3.4.21.39) (RMCP-1) (RMCP- 1)(Chymase).
U67994	8831	AAB396 19	8832	X74330	8833	P49642	8834	90.27	Rattus norvegicus DNA primase small subunit mRNA, partial cds		U67994 Rattus norvegicus DNA primase small subunit mRNA, partial cds /cds=(0,91) /gb=U67994 /gi=1763024 /ug=Rn.10649 /len=410			
U68272	8835	AAB170 55	8836	AF056979	8837	P15260	8838	42	interferon gamma receptor		U68272 RNU68272 Rattus norvegicus interferon gamma receptor mRNA, partial cds			

Table 2.

U68417	8839	O35854	8840	BC001900	8841	O15382	8842	81	heart branched chain amino transferase precursor (BCATm) mRNA, nuclear gene encoding mitochondrial protein	U68417 Rattus norvegicus heart branched chain aminotransferase precursor (BCATm) mRNA, nuclear gene encoding mitochondrial protein, complete cds /cds=(7,1188) /gb=U68417 /gi=2342863 /ug=Rn.981 /len=1548	Mitochondrial	"Branched-chain amino acid amino transferase, e, mitochondrial precursor (EC 2.6.1.42) (BCAT(m))."
U68562	8843	U68562	8844	No human homolog found.	No	Human Protein Found.			Rat chaperonin 60 (Hsp60) and chaperonin 10 (CPN10) two genes on a bidirectional promoter	U68562 mRNA#2 RNU68562 Rattus norvegicus chaperonin 60 (Hsp60) and chaperonin 10 (CPN10) genes, nuclear genes encoding mitochondrial proteins, complete cds		
U70211	8845	AAC53 322	8846	BI767712	8847	NP_057 421	8848	92.22	RNB6	U70211 Rattus norvegicus RNB6 mRNA, complete cds /cds=(218,1399) /gb=U70211 /gi=2058461 /ug=Rn.9790 /len=1838		
U70270	8849	No Rat Protein Found.		No human homolog found.	No	Human Protein Found.			Rattus norvegicus mud-4 mRNA, 3' UTR	U70270 UTR#1 RNMUD402 Rattus norvegicus mud-4 mRNA, 3 UTR		
U70779	8850	AAB477 48	8851	NM_0035 86	8852	NP_003 577	8853	73	Doc2A	U70779 Rattus norvegicus Doc2A mRNA, complete cds /cds=(212,1423) /gb=U70779 /gi=1575773 /ug=Rn.10690 /len=1600		
U72350	8854	P53563	8855	XM_04622 0		XP_046 220		91	Rattus norvegicus Bcl xalpha mRNA, complete cds	U72350 Rattus norvegicus Bcl-xalpha mRNA, complete cds /cds=(71,772) /gb=U72350 /gi=1622936 /ug=Rn.10323 /len=1742	MITOCHON DRIAL MEMBRANE S AND PERINUCLE AR ENVELOPE.	Apoptosis regulator Bcl-x.

Table 2.

U72497	8856	P97612	8857	AL050372	8858	O00519	8859	87.61	Fatty acid amide hydrolase		U72497 Rattus norvegicus fatty acid amide hydrolase mRNA, complete cds /cds=(49,1788) /gb=U72497 /gi=1680721 /ug=Rn.10619 /len=2462	MEMBRANE- BOUND. SEEMS TO BE ASSOCIATE D WITH THE ENDOPLAS MIC RETICULUM AND/OR GOLGI APPARATU S.	Fatty-acid amide hydrolase (EC 3.1.-.-) (Oleamide hydrolase)(Anan damide amidohydrolase).
U72741	8860	P97840	8861	AA810306	8862	O00182	8863	88.89	Lectin, galactose binding, soluble 9 (Galectin-9)		U72741 Rattus norvegicus 36 Kd beta- galactoside binding lectin mRNA, complete cds /cds=(5,1069) /gb=U72741 /gi=2351552 /ug=Rn.10706 /len=1070	CYTOPLAS MIC. MAY ALSO BE SECRETED BY A NON- CLASSICAL SECRETOR Y PATHWAY	Galectin-9 (36 kDa beta- galactoside binding lectin) (Uratetransporte r/channel) (UAT).
U72995	8864	AAC53 149	8865	AB002356	8866	XP_006 166	8867	94.55	Rab3 GDP/GTP exchange protein		U72995 Rattus norvegicus Rab3 GDP/GTP exchange protein mRNA, complete cds /cds=(191,4999) /gb=U72995 /gi=1947049 /ug=Rn.9786 /len=5249		
U73142	8868	P70618	8869	L35263	8870	Q16539	8871	91.28	p38 mitogen activated protein kinase		U73142 Rattus norvegicus p38 mitogen activated protein kinase mRNA, complete cds /cds=(11,1093) /gb=U73142 /gi=1621646 /ug=Rn.3293 /len=3132		Mitogen- activated protein kinase 14 (EC 2.7.1.-) (Mitogen activatedprotein kinase p38) (MAP kinase p38).

Table 2.

U73142	8872	P70618	8873	L35263	8874	Q16539	8875	91.28	p38 mitogen activated protein kinase		U73142 Rattus norvegicus p38 mitogen activated protein kinase mRNA, complete cds /cds=(11,1093) /gb=U73142 /gi=1621646 /ug=Rn.3293 /len=3132		Mitogen- activated protein kinase 14 (EC 2.7.1.-) (Mitogen activated protein kinase p38) (MAP kinase p38).
U73174	8876	AAB181 32	8877	XM_00511 9		1GRT	8878	84	Rattus norvegicus glutathione reductase mRNA, complete cds		U73174 RNU73174 Rattus norvegicus glutathione reductase mRNA, complete cds		
U73174	8879	AAB181 32	8880	XM_00511 9		1GRT	8881	84	Rattus norvegicus glutathione reductase mRNA, complete cds		U73174 RNU73174 Rattus norvegicus glutathione reductase mRNA, complete cds		
U73174	8882	AAB181 32	8883	XM_00511 9		1GRT	8884	84	Rattus norvegicus glutathione reductase mRNA, complete cds		U73174 RNU73174 Rattus norvegicus glutathione reductase mRNA, complete cds		
U73525	8885	P97615	8886	XM_03864 4		XP_038 644		87	Trx2		U73525 Rattus norvegicus thioredoxin mRNA, nuclear gene encoding mitochondrial protein, complete cds /cds=(55,555) /gb=U73525 /gi=1809118 /ug=Rn.967 /len=1261	Mitochondrial	"Thioredoxin, mitochondrial precursor (Mt- TRX) (Thioredoxin 2)."
U75392	8887	AAB187 47	8888	NM_0072 73	8889	NP_009 204	8890	80	B-cell receptor associated protein 37		U75392 RNBAP2 B-cell receptor associated protein 37 (BAP-37) mRNA, partial cds and 3 untranslated sequence		

Table 2.

U75916	8891	g18391 62		AK025185	8892	g592440 8		93.02	Rattus norvegicus zonula occludens 2 protein (ZO-2) mRNA, partial cds		U75916 Rattus norvegicus zonula occludens 2 protein (ZO-2) mRNA, partial cds /cds=(0.2443) /gb=U75916 /gi=1839161 /ug=Rn.10965 /len=3329		
U75920	8893	AAB818 85	8894	NM_0123 25	8895	Q15691	8896	95	APC binding protein EB1		U75920 RNAPCBP1 Rattus norvegicus APC binding protein EB1 mRNA, complete cds		
U75923	8897	AAB818 86	8898	No human homolog found.		No Human Protein Found.			Isoleucyl tRNA synthetase mRNA, partial cds and 3' untranslated sequence		U75923UTR#1 SEG_RNTRNAIS3 Rattus norvegicus isoleucyl tRNA synthetase mRNA, partial cds and 3' untranslated sequence		
U75927	8899	NP_071 948	8900	NM_0018 65	8901	P14406	8902	81	Cytochrome c oxidase subunit VIIa 3	NM_02250 3	U75927UTR#1 RNCOVII2 Rattus norvegicus cytochrome oxidase subunit VIIa mRNA, 3 untranslated region, partial sequence		
U75973	8903	P70627	8904	AF254357	8905	Q04609	8906	89.81	NAAG- peptidase		U75973 Rattus norvegicus NAAG-peptidase mRNA, complete cds /cds=(22.2280) /gb=U75973 /gi=1661226 /ug=Rn.10609 /len=2899	Type II membrane protein. Plasma membrane .	Glutamate carboxypeptidas e II (EC 3.4.17.21) (Membrane glutamatecarbo xypeptidase) (mGCP) (N- acetylated-alpha linked acidic dipeptidase) (NAALADase I) (Pteroylpoly- gamma- glutamate carboxypeptidas e)(Fo

Table 2.

U76206	8907	O35881	8908	D13626	8909	Q15391	8910	81.37	Rattus norvegicus VTR 15-20 receptor mRNA, complete cds		U76206 Rattus norvegicus VTR 15-20 receptor mRNA, complete cds /cds=(238,1155) /gb=U76206 /gi=2459584 /ug=Rn.16317 /len=1690	Integral membrane protein.	UDP-glucose receptor (G protein-coupled receptor GPR105) (VTR 15-20).
U76252	8911	P07314	8912	AL117414	8913	P36269	8914	87.03	Gamma-glutamyltransferase-like activity 1		U76252 RNU76252 Rattus norvegicus gamma glutamyl transpeptidase-related enzyme mRNA, partial cds		
U76557	8915	P56558	8916	XM_047694		XP_047694		88	O-GlcNAc transferase		U76557 Rattus norvegicus O-GlcNAc transferase, p110 subunit (OGT) mRNA, complete cds /cds=(311,3421) /gb=U76557 /gi=1931578 /ug=Rn.9782 /len=4039	NUCLEAR AND CYTOPLASMIC (POSSIBLE).	UDP-N-acetylglucosaminyltransferase (EC 2.4.1.-) (O-GlcNAc transferase p110 subunit).
U76714	8917	AAD00260	8918	AK002038	8919	NP_055400	8920	91.59	Rattus norvegicus cell adhesion regulator (CAR1) mRNA, complete cds		U76714 RRU76714 Rattus norvegicus cell adhesion regulator (CAR1) mRNA, complete cds		
U76714	8921	AAD00260	8922	AK002038	8923	NP_055400	8924	91.59	Rattus norvegicus cell adhesion regulator (CAR1) mRNA, complete cds		U76714 RRU76714 Rattus norvegicus cell adhesion regulator (CAR1) mRNA, complete cds		
U77483	8925	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			guanine nucleotide-binding protein (Gz-alpha)		U77483mRNA RNGZAL2 Rattus norvegicus guanine nucleotide-binding protein (Gz-alpha) gene, exon 1 and 5 flanking region		

Table 2.

U77583	8926	AAB192 28	8927	XM_04699 5		XP_046 995	83	casein kinase I alpha L		U77583 Rattus norvegicus casein kinase I alpha L (CK1aL) mRNA, complete cds /cds=(0,1061) /gb=U77583 /gi=1679789 /ug=Rn.12208 /len=1062		
U77626	8928	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		formin binding protein 21 mRNA		U77626UTR#1 RNFBP21S2 Rattus norvegicus formin binding protein 21 mRNA, partial 3 UTR		
U77829	8929	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		gas-5 growth arrest homolog		U77829mRNA RNU77829 Rattus norvegicus gas-5 growth arrest homolog non-translated mRNA sequence		
U77829	8930	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		gas-5 growth arrest homolog		U77829mRNA RNU77829 Rattus norvegicus gas-5 growth arrest homolog non-translated mRNA sequence		
U77931	8931	AAK219 74	8932	No human homolog found.		No Human Protein Found.		rRNA promoter binding protein		U77931 RNU77931 Rattus norvegicus unknown mRNA		
U77933	8933	AAB963 79	8934	AF314175	8935	P42575	90.99	Nedd2/Ich-1		U77933 Rattus norvegicus Nedd2/Ich-1 mRNA, complete cds /cds=(6,1364) /gb=U77933 /gi=2769705 /ug=Rn.1438 /len=3352		
U78090	8937	AAC34 249	8938	AK023061	8939	XP_050 190	90.12	potassium channel regulator 1		U78090 RNU78090 Rattus norvegicus potassium channel regulator 1 mRNA, complete cds		
U78517	8940	AAD03 423	8941	XM_00243 7	8942	XP_002 437	95	Rattus norvegicus cAMP- regulated guanine nucleotide exchange factor II (cAMP-GEFII) mRNA, partial cds		U78517 RNU78517 Rattus norvegicus cAMP- regulated guanine nucleotide exchange factor II (cAMP-GEFII) mRNA, partial cds		

Table 2.

U78517	8944	AAD03 423	8945	XM_00243 7	8946	XP_002 437	8947	95	Rattus norvegicus cAMP- regulated guanine nucleotide exchange factor II (cAMP-GEFII) mRNA, partial cds		U78517 RNU78517 Rattus norvegicus cAMP- regulated guanine nucleotide exchange factor II (cAMP-GEFII) mRNA, partial cds		
U78977	8948	AAC05 244	8949	AB014511	8950	O75110	8951	88.63	putative ATPase		U78977 Rattus norvegicus putative ATPase mRNA, partial cds /cds=(0,827) /gb=U78977 /gi=2944136 /ug=Rn.11016 /len=936		
U78977	8952	AAC05 244	8953	AB014511	8954	O75110	8955	88.63	putative ATPase		U78977 Rattus norvegicus putative ATPase mRNA, partial cds /cds=(0,827) /gb=U78977 /gi=2944136 /ug=Rn.11016 /len=936		
U79417	8956	AAC53 096	8957	BE939943	8958	NP_006 535	8959	92.81	71 kDa component of rsec6/8 secretory complex p71		U79417 RNU79417 Rattus norvegicus 71 kDa component of rsec6/8 secretory complex p71 mRNA, complete cds		
U79568	8960	AAB504 03	8961	XM_00824 9	8962	XP_008 249	8963	63	Voltage- dependent sodium channel PN1 mRNA, partial cds		U79568 RNU79568 Rattus norvegicus voltage-dependent sodium channel PN1 mRNA, partial cds		
U81035	8964	AAB477 53	8965	AB018299	8966	BAA344 76	8967	92	ankyrin binding cell adhesion molecule neurofascin		U81035 RNU81035 Rattus norvegicus ankyrin binding cell adhesion molecule neurofascin mRNA, partial cds		
U81037	8968	AAB477 55	8969	AJ001057	8970	NP_005 001	8971	90.83	Ankyrin binding cell adhesion molecule NrCAM		U81037 Rattus norvegicus ankyrin binding cell adhesion molecule NrCAM (NrCAM) mRNA, alternatively spliced form, partial cds /cds=(0,3647) /gb=U81037 /gi=1842430 /ug=Rn.10691 /len=4044		

Table 2.

U81186	8972	AAD00 504	8973	NM_0161 42	8974	NP_057 226	8975	83	Smooth muscle- specific 17 beta- hydroxysteroid dehydrogenas e type 3		U81186 RRU81186 Rattus norvegicus smooth muscle-specific 17beta- hydroxysteroid dehydrogenase type 3 mRNA, complete cds		
U81186	8976	AAD00 504	8977	NM_0161 42	8978	NP_057 226	8979	83	Smooth muscle- specific 17 beta- hydroxysteroid dehydrogenas e type 3		U81186 RRU81186 Rattus norvegicus smooth muscle-specific 17beta- hydroxysteroid dehydrogenase type 3 mRNA, complete cds		
U81186	8980	AAD00 504	8981	NM_0161 42	8982	NP_057 226	8983	83	Smooth muscle- specific 17 beta- hydroxysteroid dehydrogenas e type 3		U81186 RRU81186 Rattus norvegicus smooth muscle-specific 17beta- hydroxysteroid dehydrogenase type 3 mRNA, complete cds		
U81186	8984	AAD00 504	8985	NM_0161 42	8986	NP_057 226	8987	83	Smooth muscle- specific 17 beta- hydroxysteroid dehydrogenas e type 3		U81186 RRU81186 Rattus norvegicus smooth muscle-specific 17beta- hydroxysteroid dehydrogenase type 3 mRNA, complete cds		
U82623	8988	AAB915 37	8989	AA029488	8990	NP_006 779	8991	91.72	cytocentrin		U82623 Rattus norvegicus cytocentrin mRNA, complete cds /cds=(119,2200) /gb=U82623 /gi=2697021 /ug=Rn.7107 /len=3602		
U82626	8992	AAB963 42	8993	XM_04531 9		XP_045 319		88	Chondroitin sulfate proteoglycan 6		U82626 Rattus norvegicus basement membrane-associated chondroitin proteoglycan Bamacan mRNA, complete cds /cds=(89,3664) /gb=U82626 /gi=1785539 /ug=Rn.11074 /len=4104		
U83119	8994	AAB412 24	8995	M80340	8996	AAA516 22	8997	63	Rat genomic clone (ORF2)	M13101	U83119 RNU83119 Rattus norvegicus L1 retrotransposon ORF2 mRNA, consensus sequence, partial cds		

Table 2.

U83883	8998	AAB414 39	8999	BG542891	9000	XP_011 618	9001	90.89	p105 coactivator		U83883 Rattus norvegicus p105 coactivator mRNA, complete cds /cds=(23,2665) /gb=U83883 /gi=1800306 /ug=Rn.5481 /len=3166			
U83883	9002	AAB414 39	9003	BG542891	9004	XP_011 618	9005	90.89	p105 coactivator		U83883 Rattus norvegicus p105 coactivator mRNA, complete cds /cds=(23,2665) /gb=U83883 /gi=1800306 /ug=Rn.5481 /len=3166			
U83895	9006	P97694	9007	NM_0047 62	9008	Q15438	9009	98	sec7A		U83895 Rattus norvegicus sec7A mRNA, complete cds /cds=(75,1271) /gb=U83895 /gi=1800314 /ug=Rn.10672 /len=1399			Cytohesin 1 (SEC7 homolog A) (msec7-1).
U83896	9010	P97695	9011	AA371941	9012	Q99418	9013	94.44	yeast sec7B		U83896 Rattus norvegicus sec7B mRNA, complete cds /cds=(187,1389) /gb=U83896 /gi=1800316 /ug=Rn.3732 /len=1561			Cytohesin 2 (ARF nucleotide- binding site opener) (ARNO protein) (CLM2)(SEC7 homolog B) (msec7-2).
U84410	9014	P55213	9015	U26943	9016	P42574	9017	85.2	cysteine protease CPP32		U84410 RNU84410 Rattus norvegicus interleukin-1beta-converting enzyme-related protease CPP32 mRNA, complete cds	Cytoplasmic.		Apoptain precursor (EC 3.4.22.-) (Cysteine protease CPP32) (Yamaprotein) (CPP-32) (Caspase-3) (CASP-3) (SREBP cleavage activity 1)(SCA-1) (LICE) (IRP).
U86635	9018	A29036	9019	BC000088	9020	P21266	9021	87.35	Glutathione S- transferase, mu 5		U86635 RNU86635 Rattus norvegicus glutathione s-transferase M5 mRNA, complete cds			
U86635	9022	A29036	9023	BC000088	9024	P21266	9025	87.35	Glutathione S- transferase, mu 5		U86635 RNU86635 Rattus norvegicus glutathione s-transferase M5 mRNA, complete cds			

Table 2.

U86635	9026	A29036	9027	BC000088	9028	P21266	9029	87.35	Glutathione S-transferase, mu 5			U86635 RNU86635 Rattus norvegicus glutathione s-transferase M5 mRNA, complete cds			
U87306	9030	AAB57679	9031	AK022859	9032	AAC67491	9033	88.74	Transmembrane receptor Unc5H2			U87306 RNU87306 Rattus norvegicus transmembrane receptor Unc5H2 mRNA, complete cds			
U87971	9034	AAB93844	9035	NIM_003164	9036	Q13190	9037	95	Syntaxin 5a			U87971 RNU87971 Rattus norvegicus syntaxin 5 mRNA, partial cds			
U87971	9038	AAB93844	9039	NIM_003164	9040	Q13190	9041	95	Syntaxin 5a			U87971 RNU87971 Rattus norvegicus syntaxin 5 mRNA, partial cds			
U88958	9042	AAB53415	9043	AF136631	9044	NP_057672	9045	95.5	Rattus norvegicus neuritin mRNA, complete cds			U88958 Rattus norvegicus neuritin mRNA, complete cds /cds=(188,616) /gb=U88958 /gi=2062677 /ug=Rn.3546 /len=1614			
U88958	9046	AAB53415	9047	AF136631	9048	NP_057672	9049	95.5	Rattus norvegicus neuritin mRNA, complete cds			U88958 Rattus norvegicus neuritin mRNA, complete cds /cds=(188,616) /gb=U88958 /gi=2062677 /ug=Rn.3546 /len=1614			
U88986	9050	T34258		U38545	9051	Q13393	9052	88	Phospholipase D gene 1			U88986 RNU88986 Rattus norvegicus phospholipase D 1 mRNA, partial cds			
U89282	9053	AAB51690	9054	U86136	9055	XP_007488	9056	87.5	telomerase protein component 1 (TLP1)			U89282 Rattus norvegicus telomerase protein component 1 (TLP1) mRNA, complete cds /cds=(199,8088) /gb=U89282 /gi=1932816 /ug=Rn.5890 /len=8193			
U89529	9057	P97849	9058	BG828409	9059	XP_026964	9060	88.68	Rattus norvegicus fatty acid transport protein mRNA, complete cds			U89529 Rattus norvegicus fatty acid transport protein mRNA, complete cds /cds=(74,2014) /gb=U89529 /gi=1881712 /ug=Rn.1047 /len=3080	Plasma membrane.	Long-chain fatty acid transport protein precursor (FATP).	
U89745	9061	AAB49895	9062	No human homolog found.		No Human Protein Found.			Rattus norvegicus unknown protein mRNA, partial cds			U89745 Rattus norvegicus unknown protein mRNA, partial cds /cds=(0,293) /gb=U89745 /gi=1895082 /ug=Rn.10720 /len=1114			

Table 2.

U89905	9063	P70473	9064	BC009471	9065	Q9UHK6	9066	85.79	Methylacyl-CoA racemase alpha		U89905 Rattus norvegicus alpha-methylacyl-CoA racemase mRNA, complete cds /cds=(58,1143) /gb=U89905 /gi=2145183 /ug=Rn.2590 /len=1504	Peroxisomal and mitochondrial	Alpha-methylacyl-CoA racemase (EC 5.1.99.4) (2-methylacyl-CoA racemase) (2-arylpropionyl-CoA epimerase).
U89905	9067	P70473	9068	BC009471	9069	Q9UHK6	9070	85.79	Methylacyl-CoA racemase alpha		U89905 Rattus norvegicus alpha-methylacyl-CoA racemase mRNA, complete cds /cds=(58,1143) /gb=U89905 /gi=2145183 /ug=Rn.2590 /len=1504	Peroxisomal and mitochondrial	Alpha-methylacyl-CoA racemase (EC 5.1.99.4) (2-methylacyl-CoA racemase) (2-arylpropionyl-CoA epimerase).
U90312	9071	O55207	9072	AL157424	9073	O15056	9074	94.07	Synaptojanin II		U90312 Rattus norvegicus synaptojanin II mRNA, complete cds /cds=(55,3801) /gb=U90312 /gi=2708492 /ug=Rn.10868 /len=5033	CYTOPLASMIC, INTERACTION OF ISOFORM 2A WITH OMP25 RESULTS IN LOCALIZATION TO THE MITOCHONDRIA.	"Synaptojanin 2 (EC 3.1.3.56) (Synaptic inositol-1,4,5-trisphosphate 5-phosphatase 2).".

Table 2.

U90610	9075	O08565	9076	L06797	9077	P30991	9078	86.57	CXC chemokine receptor (CXCR4) mRNA		U90610 Rattus norvegicus CXC chemokine receptor (CXCR4) mRNA, complete cds /cds=(0,1049) /gb=U90610 /gi=1906612 /ug=Rn.5289 /len=1050	Integral membrane protein.	C-X-C chemokine receptor type 4 (CXC-R4) (CXCR-4) (Stromal cell-derived factor 1 receptor) (SDF-1 receptor) (Fusin) (Leukocyte-derived seven transmembrane domain receptor) (LESTR).
U90610	9079	O08565	9080	L06797	9081	P30991	9082	86.57	CXC chemokine receptor (CXCR4) mRNA		U90610 Rattus norvegicus CXC chemokine receptor (CXCR4) mRNA, complete cds /cds=(0,1049) /gb=U90610 /gi=1906612 /ug=Rn.5289 /len=1050	Integral membrane protein.	C-X-C chemokine receptor type 4 (CXC-R4) (CXCR-4) (Stromal cell-derived factor 1 receptor) (SDF-1 receptor) (Fusin) (Leukocyte-derived seven transmembrane domain receptor) (LESTR).
U90725	9083	AAD09 246	9084	M64098	9085	Q00341	9086	97	Lipoprotein-binding protein		U90725 RNU90725 Rattus norvegicus caveolae-associated protein mRNA, complete cds		
U90725	9087	AAD09 246	9088	M64098	9089	Q00341	9090	97	Lipoprotein-binding protein		U90725 RNU90725 Rattus norvegicus caveolae-associated protein mRNA, complete cds		
U90829	9091	AAD09 247	9092	U50939	9093	NP_003 896	9094	92.7	APP-binding protein 1		U90829 RNU90829 Rattus norvegicus APP-binding protein 1 mRNA, complete cds		
U90829	9095	AAD09 247	9096	U50939	9097	NP_003 896	9098	92.7	APP-binding protein 1		U90829 RNU90829 Rattus norvegicus APP-binding protein 1 mRNA, complete cds		

Table 2.

U90829	9099	AAD09 247	9100	U50939	9101	NP_003 896	9102	92.7	APP-binding protein 1		U90829 RNU90829 Rattus norvegicus APP- binding protein 1 mRNA, complete cds		
U90829	9103	AAD09 247	9104	U50939	9105	NP_003 896	9106	92.7	APP-binding protein 1		U90829 RNU90829 Rattus norvegicus APP- binding protein 1 mRNA, complete cds		
U91561	9107	AAC23 707	9108	NM_0181 29	9109	NP_060 599	9110	89	pyridoxine 5'- phosphate oxidase		U91561 RNU91561 Rattus norvegicus pyridoxine 5 -phosphate oxidase mRNA, complete cds		
U91561	9111	AAC23 707	9112	NM_0181 29	9113	NP_060 599	9114	89	pyridoxine 5'- phosphate oxidase		U91561 RNU91561 Rattus norvegicus pyridoxine 5 -phosphate oxidase mRNA, complete cds		
U91561	9115	AAC23 707	9116	NM_0181 29	9117	NP_060 599	9118	89	pyridoxine 5'- phosphate oxidase		U91561 RNU91561 Rattus norvegicus pyridoxine 5 -phosphate oxidase mRNA, complete cds		
U91561	9119	AAC23 707	9120	NM_0181 29	9121	NP_060 599	9122	89	pyridoxine 5'- phosphate oxidase		U91561 RNU91561 Rattus norvegicus pyridoxine 5 -phosphate oxidase mRNA, complete cds		
U92072	9123	AAD04 756	9124	AI025874	9125	XP_045 911	9126	95.05	Tomosyn		U92072 RRU92072 Rattus norvegicus m- tomosyn mRNA, complete cds		
U92279	9127	O08773	9128	AF037194	9129	O43566	9130	86.25	Rattus norvegicus regulator of G- protein signalling 14 (RGS14) mRNA, complete cds		U92279 Rattus norvegicus regulator of G- protein signalling 14 (RGS14) mRNA, complete cds /cds=(264,1898) /gb=U92279 /gj=2088555 /ug=Rn.9795 /len=2854		Regulator of G- protein signaling 14 (RGS14).
U92564	9131	AAB586 46	9132	AB018303	9133	BAA344 80	9134	98.21	Rattus norvegicus Olf- 1/EBF associated Zn finger protein Roaz mRNA, alternatively spliced form, complete cds		U92564 Rattus norvegicus Olf-1/EBF associated Zn finger protein Roaz mRNA, alternatively spliced form, complete cds /cds=(411,3971) /gb=U92564 /gi=2149791 /ug=Rn.9981 /len=4636		

Table 2.

U92564	9135	AAB586 46	9136	AB018303	9137	BAA344 80	9138	98.21	Rattus norvegicus Olf- 1/EBF associated Zn finger protein Roaz mRNA, alternatively spliced form, complete cds		U92564 Rattus norvegicus Olf-1/EBF associated Zn finger protein Roaz mRNA, alternatively spliced form, complete cds /cds=(411,3971) /gb=U92564 /gi=2149791 /ug=Rn.9981 /len=4636		
U92564	9139	AAB586 46	9140	AB018303	9141	BAA344 80	9142	98.21	Rattus norvegicus Olf- 1/EBF associated Zn finger protein Roaz mRNA, alternatively spliced form, complete cds		U92564 Rattus norvegicus Olf-1/EBF associated Zn finger protein Roaz mRNA, alternatively spliced form, complete cds /cds=(411,3971) /gb=U92564 /gi=2149791 /ug=Rn.9981 /len=4636		
U92564	9143	AAB586 46	9144	AB018303	9145	BAA344 80	9146	98.21	Rattus norvegicus Olf- 1/EBF associated Zn finger protein Roaz mRNA, alternatively spliced form, complete cds		U92564 Rattus norvegicus Olf-1/EBF associated Zn finger protein Roaz mRNA, alternatively spliced form, complete cds /cds=(411,3971) /gb=U92564 /gi=2149791 /ug=Rn.9981 /len=4636		
U93197	9147	AAB517 24	9148	AK022522	9149	O60313	9150	93.21	RN protein		U93197 Rattus norvegicus RN protein mRNA, complete cds /cds=(265,1218) /gb=U93197 /gi=1934602 /ug=Rn.9783 /len=1601		

Table 2.

U94340	9151	P27008	9152	IM18112	9153	P09874	9154	82	poly(ADP-ribose) polymerase		U94340 RNU94340 Rattus norvegicus poly(ADP-ribose) polymerase mRNA, complete cds	Nuclear.	Poly [ADP-ribose] polymerase-1 (EC 2.4.2.30) (PARP-1) (ADPRT) (NAD(+)/ADP-ribosyltransferase-1) (Poly[ADP-ribose] synthetase-1).
U94904	9155	AAC53493	9156	AF260261	9157	NP_005750	9158	95.17	Thyroid hormone responsive protein		U94904 Rattus norvegicus thyroid hormone responsive protein mRNA, complete cds /cds=(63,1694) /gb=U94904 /gi=2232008 /ug=Rn.11316 /len=3628		
U95178	9159	O88797	9160	AK024965	9161	NP_001334	9162	92.56	DOC-2 p82 isoform	NM_024159	U95178 Rattus norvegicus DOC-2 p59 isoform mRNA, complete cds /cds=(6,1658) /gb=U95178 /gi=3157994 /ug=Rn.14763 /len=2504		Disabled homolog 2 (DOC-2) (Mitogen-responsive phosphoprotein) (C9).
U95727	9163	O35824	9164	NM_005880	9165	O60884	9166	86	DnaJ (Hsp40) homolog, subfamily A, member 2		U95727 RNU95727 Rattus norvegicus DnaJ homolog 2 mRNA, complete cds	Membrane-bound .	DnaJ homolog subfamily A member 2 (RDJ2).
U95727	9167	O35824	9168	NM_005880	9169	O60884	9170	86	DnaJ (Hsp40) homolog, subfamily A, member 2		U95727 RNU95727 Rattus norvegicus DnaJ homolog 2 mRNA, complete cds	Membrane-bound .	DnaJ homolog subfamily A member 2 (RDJ2).
U96130	9171	O08730	9172	X79537	9173	P46976	9174	91.24	Glycogenin		U96130 Rattus norvegicus glycogenin mRNA, partial cds /cds=(0,742) /gb=U96130 /gi=2058738 /ug=Rn.3661 /len=1348		Glycogenin-1 (EC 2.4.1.186).
U96130	9175	O08730	9176	X79537	9177	P46976	9178	91.24	Glycogenin		U96130 Rattus norvegicus glycogenin mRNA, partial cds /cds=(0,742) /gb=U96130 /gi=2058738 /ug=Rn.3661 /len=1348		Glycogenin-1 (EC 2.4.1.186).
U96490	9179	AAB68777	9180	BC001299	9181	NP_065203	9182	86.27	liver mRNA,		U96490 Rattus norvegicus liver mRNA, complete cds /cds=(95,508) /gb=U96490 /gi=2352085 /ug=Rn.11174 /len=1030		

Table 2.

U96490	9183	AAB687 77	9184	BC001299	9185	NP_065 203	9186	86.27	liver mRNA,		U96490 Rattus norvegicus liver mRNA, complete cds /cds=(95,508) /gb=U96490 /gi=2352085 /ug=Rn.11174 /len=1030		
U97143	9187	AAC53 301	9188	U97145	9189	O00451	9190	92.86	RET ligand 2		U97143 Rattus norvegicus RET ligand 2 (RET L2) mRNA, complete cds /cds=(120,1514) /gb=U97143 /gi=2282023 /ug=Rn.10775 /len=2787		
V01227	9191	P02551	9192	AF141347	9193	P05209	9194	97	alpha-tubulin	AA892333	V01227 Rat mRNA encoding alpha-tubulin /cds=(66,1421) /gb=V01227 /gi=55776 /ug=Rn.3389 /len=1617		Tubulin alpha-1 chain.
V01543	9195	CAA24 785	9196	No human homolog found.		No Human Protein Found.			Rat mRNA fragment isolated from the brain and coding for brain specific peptide.		V01543mRNA Rat mRNA fragment isolated from the brain and coding for brain specific peptide /cds=(547,906) /gb=V01543 /gi=56876 /ug=Rn.2865 /len=1136		
V01543	9197	NP_077 042	9198	No human homolog found.		No Human Protein Found.			Brain specific mRNA B (clone p1a75)	NM_02412 8	V01543mRNA Rat mRNA fragment isolated from the brain and coding for brain specific peptide /cds=(547,906) /gb=V01543 /gi=56876 /ug=Rn.2865 /len=1136		
X01785	9199	P04218	9200	X05323	9201	CAA289 43	9202	69	Cell surface protein (thymocyte, antigen identified by monoclonal antibody MRC- OX2	NM_03151 8	X01785 Rat thymocyte mRNA for cell surface protein (MRC OX-2) /cds=(24,860) /gb=X01785 /gi=56700 /ug=Rn.7085 /len=2216	Type I membrane protein.	OX-2 membrane glycoprotein precursor (MRC OX-2 antigen).
X02412	9203	Q63582	9204	X03541	9205	P04629	9206	66	striated muscle alpha- tropomyosin		X02412 Rat mRNA fragment for striated muscle alpha-tropomyosin /cds=(0,614) /gb=X02412 /gi=57405 /ug=Rn.1033 /len=890		Tropomyosin 1 alpha chain (Alpha- tropomyosin).

Table 2.

X02601	9207	P03957	9208	J03209	9209	P08254	9210	53 kD polypeptide induced by growth factors (EGF) and oncogenes (H-ras; src; polyoma middle T) /cgs=(57,1484) /gb=X02601 /gi=57460 /ug=Rn.10435 /len=1771	X02601 Rat mRNA for 53 kD polypeptide induced by growth factors (EGF) and oncogenes (H-ras; src; polyoma middle T) /cgs=(57,1484) /gb=X02601 /gi=57460 /ug=Rn.10435 /len=1771			Stromelysin-1 precursor (EC 3.4.24.17) (Matrix metalloproteinase-3)(MMP-3) (Transin-1) (SL-1) (PTR1 protein).
X02904	9211	P04906	9212	U30897	9213	P09211	9214	85	Glutathione S-transferase, pi 2			Glutathione S-transferase P (EC 2.5.1.18) (GST 7-7) (Chain 7)(GST class-pi).
X03362	9215	P06494	9216	M11730	9217	P04626	9218	89.47	put. p185 precursor			Receptor protein-tyrosine kinase erbB-2 precursor (EC 2.7.1.112)(p185 erbB2) (NEU proto-oncogene) (C-erbB-2) (Epidermal growth factor receptor-related protein).
X03369	9219	P04691	9220	R29239	9221	XP_004389		97.2	beta-tubulin T beta15			Tubulin beta chain (T beta-15).
X04070	9222	P08033	9223	BC002805	9224	P08034	9225	91.25	Gap junction protein (Connexin 32 - Charcot-Marie-Tooth neuropathy, X-linked)			Gap junction beta-1 protein (Connexin 32) (Cx32) (GAP junction 28 kDa liver protein).
X04979	9226	CAA28650	9227	NM_000041	9228	P02649	9229	72	Apolipoprotein E			

Table 2.

X05137	9230	P07174	9231	M14764	9232	P08138	9233	86.75	Fast nerve growth factor receptor (NGFR)		X05137 Rat mRNA for fast nerve growth factor receptor (NGFR) /cds=(113,1390) /gb=X05137 /gi=56755 /ug=Rn.10980 /len=3259	Type I membrane protein.	Tumor necrosis factor receptor superfamily member 16 precursor (Low-affinity nerve growth factor receptor) (Gp80-LNGFR)(p75 ICD) (Low affinity neurotrophin receptor p75NTR).
X05300	9234	P07153	9235	Y00281	9236	P04843	9237	94	Ribophorin I		X05300 Rat mRNA for ribophorin I /cds=(8,1825) /gb=X05300 /gi=57070 /ug=Rn.4224 /len=2214	Type I membrane protein. Endoplasmic reticulum.	Dolichyl-diphosphooligosaccharide--protein glycosyltransferase67 kDa subunit precursor (EC 2.4.1.119) (Ribophorin I) (RPN-I).
X05472	9238	CAA29032	9239	No human homolog found.		No Human Protein Found.			Rat 2.4 kb repeat DNA right terminal region (genomic clone with 3 reading frames)		X05472cds#1 RNREP24R Rat 2.4 kb repeat DNA right terminal region		
X05472	9240	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Genomic 2.4 kb repeat DNA right terminal containing two ORFs		X05472cds#1 RNREP24R Rat 2.4 kb repeat DNA right terminal region		

Table 2.

X05472	9241	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		Genomic 2.4 kb repeat DNA right terminal containing two ORFs	X05472cds#1 RNREP24R Rat 2.4 kb repeat DNA right terminal region		
X05472	9242	CAA29 032	9243	No human homolog found.	No Human Protein Found.		Rat 2.4 kb repeat DNA right terminal region (genomic clone with 3 reading frames)	X05472cds#1 RNREP24R Rat 2.4 kb repeat DNA right terminal region		
X05472	9244	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		Genomic 2.4 kb repeat DNA right terminal containing two ORFs	X05472cds#1 RNREP24R Rat 2.4 kb repeat DNA right terminal region		
X05472	9245	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		Genomic 2.4 kb repeat DNA right terminal containing two ORFs	X05472cds#2 RNREP24R Rat 2.4 kb repeat DNA right terminal region		
X05472	9246	CAA29 032	9247	No human homolog found.	No Human Protein Found.		Rat 2.4 kb repeat DNA right terminal region (genomic clone with 3 reading frames)	X05472cds#2 RNREP24R Rat 2.4 kb repeat DNA right terminal region		
X05472	9248	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		Genomic 2.4 kb repeat DNA right terminal containing two ORFs	X05472cds#2 RNREP24R Rat 2.4 kb repeat DNA right terminal region		
X05472	9249	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		Genomic 2.4 kb repeat DNA right terminal containing two ORFs	X05472cds#2 RNREP24R Rat 2.4 kb repeat DNA right terminal region		

Table 2.

X05472	9250	CAA29 032	9251	No human homolog found.	No Human Protein Found.			Rat 2.4 kb repeat DNA right terminal region (genomic clone with 3 reading frames)		X05472cds#2 RNREP24R Rat 2.4 kb repeat DNA right terminal region		
X05472	9252	CAA29 032	9253	No human homolog found.	No Human Protein Found.			Rat 2.4 kb repeat DNA right terminal region (genomic clone with 3 reading frames)		X05472cds#3 RNREP24R Rat 2.4 kb repeat DNA right terminal region		
X05472	9254	No Rat Protein Found.		No human homolog found.	No Human Protein Found.			Genomic 2.4 kb repeat DNA right terminal containing two ORFs		X05472cds#3 RNREP24R Rat 2.4 kb repeat DNA right terminal region		
X05472	9255	CAA29 032	9256	No human homolog found.	No Human Protein Found.			Rat 2.4 kb repeat DNA right terminal region (genomic clone with 3 reading frames)		X05472cds#3 RNREP24R Rat 2.4 kb repeat DNA right terminal region		
X05472	9257	No Rat Protein Found.		No human homolog found.	No Human Protein Found.			Genomic 2.4 kb repeat DNA right terminal containing two ORFs		X05472cds#3 RNREP24R Rat 2.4 kb repeat DNA right terminal region		
X05472	9258	No Rat Protein Found.		No human homolog found.	No Human Protein Found.			Genomic 2.4 kb repeat DNA right terminal containing two ORFs		X05472cds#3 RNREP24R Rat 2.4 kb repeat DNA right terminal region		
X05834	9259	CAA29 281	9260	X02761	P02751	9261	9262	Fibronectin gene 3'end		X05834 Rat fibronectin gene 3 end /cds=(0,71) /gb=X05834 /gi=56161 /ug=Rn.1604 /len=760		

Table 2.

X06150	9263	P13255	9264	BG820239	9265	Q13608	9266	89.39	Glycine methyltransferase		X06150cds RINGMTR Rat mRNA for glycine methyltransferase (EC 2.1.1.20)	Cytoplasmic.	Glycine N-methyltransferase (EC 2.1.1.20) (Folate-binding protein).
X06564	9267	P13596	9268	U63041	9269	P13592	9270	89	140-kD NCAM polypeptide	A1137246	X06564 Rat mRNA for 140-kD NCAM polypeptide /cds=(208,2784) /gb=X06564 /gi=56736 /ug=Rn.11283 /len=3170	Type I membrane protein.	"Neural cell adhesion molecule 1, 140 kDa isoform precursor (N-CAM 140)(NCAM-140)."
X06655	9271	P07825	9272	AF196779	9273	AAF05829		87	major synaptic vesicular protein p38		X06655 Rat mRNA for major synaptic vesicular protein p38 /cds=(0,896) /gb=X06655 /gi=56822 /ug=Rn.11067 /len=2310	Integral membrane protein. Synaptic vesicles.	Synaptophysin (Major synaptic vesicle protein P38).
X06832	9274	CAA29988	9275	NM_001275	9276	P10645	9277	53	Prechromogranin A		X06832cds#2 RNCHROMA Rat mRNA for prechromogranin A		
X06889	9278	P05713	9279	M28210	9280	P20336	9281	88.69	Ras-related small GTP binding protein 3A		X06889cds RNRAB3 Rat ras-related mRNA rab3		Ras-related protein Rab-3A.
X06942	9282	P14056	9283	X04790	9284	P10398	9285	91	A-raf		X06942 Rat A-raf mRNA /cds=(77,1891) /gb=X06942 /gi=55756 /ug=Rn.1714 /len=2288		A-Raf proto-oncogene serine/threonine protein kinase (EC 2.7.1.-).
X07266	9286	CAA30252	9287	NM_018948	9288	NP_061821	9289	74	Gene 33/Mig-6	A1169756	X07266cds RRG33A Rat mRNA for gene 33 polypeptide		

Table 2.

X07320	9290	P13286	9291	NM_006213	9292	Q16816	9293	91	Phosphorylase kinase gamma		X07320 Rat mRNA for phosphorylase kinase gamma-subunit /cds=(76,1242) /gb=X07320 /gi=56926 /ug=Rn.10399 /len=1388		"Phosphorylase B kinase gamma catalytic chain, skeletal muscle isoform (EC 2.7.1.38) (Phosphorylase kinase gamma subunit 1)."
X07636	9294	P08290	9295	M11025	9296	P07307	9297	67	Asialoglycoprotein receptor 2		X07636 Rat mRNA for hepatic lectin /cds=(77,982) /gb=X07636 /gi=57066 /ug=Rn.9834 /len=1290	Type II membrane protein.	Asialoglycoprotein receptor R2/3 (Hepatic lectin 2/3) (RHL-2) (ASGP-R)(ASGPR).
X07944	9298	CAA30765	9299	NM_002539	9300	P11926	9301	91	ornithine decarboxylase		X07944exon#1-12 RNODC Rat ornithine decarboxylase gene (EC 4.1.1.17)		
X08056	9302	CAA30845	9303	NM_000156	9304	Q14353	9305	85	Guanidinoacetate methyltransferase		X08056cds RNGAMT Rat gene for guanidinoacetate methyltransferase (EC 2.1.1.2)		
X08056	9306	CAA30845	9307	NM_000156	9308	Q14353	9309	85	Guanidinoacetate methyltransferase		X08056cds RNGAMT Rat gene for guanidinoacetate methyltransferase (EC 2.1.1.2)		
X12459	9310	P09034	9311	X01630	9312	P00966	9313	96	Argininosuccinate synthetase 1		X12459 Rat mRNA for argininosuccinate synthetase (EC 6.3.4.5) /cds=(14,1252) /gb=X12459 /gi=55766 /ug=Rn.5078 /len=1495		Argininosuccinate synthetase (EC 6.3.4.5) (Citruiline--aspartateligase)
X12535	9314	CAA31053	9315	XM_031588		XP_031588		99	Ras-related protein p23		X12535cds RNRASP23 Rat mRNA for ras-related protein p23		
X12535	9316	CAA31053	9317	XM_031588		XP_031588		99	Ras-related protein p23		X12535cds RNRASP23 Rat mRNA for ras-related protein p23		

Table 2.

X13016	9318	P10252	9319	M37766	9320	P09326	9321	80.34	MRC OX-45 surface antigen		X13016 Rat mRNA for MRC OX-45 surface antigen /cds=(34,756) /gb=X13016 /gi=56804 /ug=Rn.3705 /len=1422	Attached to the membrane by a GPI-anchor.	MRC OX-45 surface antigen precursor (BCM1 surface antigen) (BLAST-1)(CD48).
X13044	9322	P10247	9323	NM_004355	9324	P04233	9325	67	CD74 antigen (invariant polypeptide of major histocompatibility class II antigen-associated)	NM_013069	X13044 Rat mRNA for MHC-associated invariant chain gamma /cds=(52,702) /gb=X13044 /gi=56497 /ug=Rn.10475 /len=1150	Type II membrane protein .	"H-2 class II histocompatibility antigen, gamma chain (MHC class II associated invariant chain) (Ia antigen-associated invariant chain)(II) (CD74 antigen)."
X13044	9326	P10247	9327	NM_004355	9328	P04233	9329	67	CD74 antigen (invariant polypeptide of major histocompatibility class II antigen-associated)	NM_013069	X13044 Rat mRNA for MHC-associated invariant chain gamma /cds=(52,702) /gb=X13044 /gi=56497 /ug=Rn.10475 /len=1150	Type II membrane protein .	"H-2 class II histocompatibility antigen, gamma chain (MHC class II associated invariant chain) (Ia antigen-associated invariant chain)(II) (CD74 antigen)."

Table 2.

X13044	9330	P10247	9331	NM_004355	9332	P04233	9333	67	CD74 antigen (invariant polypeptide of major histocompatibility class II antigen-associated)	NM_013069	X13044 Rat mRNA for MHC-associated invariant chain gamma /cds=(52,702) /gb=X13044 /gi=56497 /ug=Rn. 10475 /len=1150	Type II membrane protein .	"H-2 class II histocompatibility antigen, gamma chain (MHC class II associated invariant chain) (Ia antigen-associated invariant chain)(II) (CD74 antigen)." .
X13044	9334	P10247	9335	NM_004355	9336	P04233	9337	67	CD74 antigen (invariant polypeptide of major histocompatibility class II antigen-associated)	NM_013069	X13044 Rat mRNA for MHC-associated invariant chain gamma /cds=(52,702) /gb=X13044 /gi=56497 /ug=Rn. 10475 /len=1150	Type II membrane protein .	"H-2 class II histocompatibility antigen, gamma chain (MHC class II associated invariant chain) (Ia antigen-associated invariant chain)(II) (CD74 antigen)." .
X13411	9338	CAA31777	9339	XM_045572		XP_045572		98	Elk protein		X13411cds RNELK Rat mRNA for elk protein		
X13722	9340	P35952	9341	S70123	9342	AAF24515	9343	88.68	Rat mRNA for LDL-receptor		X13722 Rat mRNA for LDL-receptor /cds=(153,2792) /gb=X13722 /gi=56569 /ug=Rn. 10483 /len=3037	Type I membrane protein.	Low-density lipoprotein receptor precursor (LDL receptor).
X13804	9344	CAA32038	9345	XM_037942	9346	XP_037942	9347	87	Heavy neurofilament polypeptide (854 AA)		X13804cds RSNFH Rat mRNA for heavy neurofilament polypeptide NF-H C-terminus		
X13905	9348	CAA32105	9349	NM_004161	9350	P11476	9351	91	rab1B protein		X13905cds RNRAB1B Rat cDNA for ras-related rab1B protein		
X13905	9352	CAA32105	9353	NM_004161	9354	P11476	9355	91	rab1B protein		X13905cds RNRAB1B Rat cDNA for ras-related rab1B protein		

Table 2.

X13933	9356	P02593	9357	AI802286	9358	AAH084 37	9359	97	Calmodulin	E02315	X13933 RNRCM1 R.norvegicus mRNA for calmodulin (pRCM1)	Calmodulin.
X13983	9360	NP_036 620	9361	XM_00692 5	9362	XP_006 925	9363	67	Rat alpha-2-macroglobulin gene exon 1 (and joined CDS)	NM_01248 8	X13983mRNA RNA2MG1 Rat alpha-2-macroglobulin gene exon 1 (and joined CDS)	
X14181	9364	CAA32 385	9365	NM_0009 80	9366	Q02543	9367		Rat mRNA for ribosomal protein L18a	AA799899	X14181cds RRRPL18A Rat mRNA for ribosomal protein L18a	
X14181	9368	CAA32 385	9369	NM_0009 80	9370	Q02543	9371	99	ribosomal protein L18a (AA 1-175)		X14181cds RRRPL18A Rat mRNA for ribosomal protein L18a	
X14181	9372	CAA32 385	9373	NM_0009 80	9374	Q02543	9375		Rat mRNA for ribosomal protein L18a	AA799899	X14181cds RRRPL18A Rat mRNA for ribosomal protein L18a	

Table 2.

X14181	9376	CAA32 385	9377	NM_0009 80	9378	Q02543	9379	99	ribosomal protein L18a (AA 1-175)		X14181cds RRRPL18A Rat mRNA for ribosomal protein L18a		
X14210	9380	CAA32 427	9381	NM_0010 07	9382	P12750	9383	100	ribosomal protein S4, x- linked		X14210cds RNRPS4 Rat mRNA for ribosomal protein S4		
X14210	9384	CAA32 427	9385	NM_0010 07	9386	P12750	9387	100	ribosomal protein S4		X14210cds RNRPS4 Rat mRNA for ribosomal protein S4		
X14210	9388	CAA32 427	9389	NM_0010 07	9390	P12750	9391	100	ribosomal protein S4, x- linked		X14210cds RNRPS4 Rat mRNA for ribosomal protein S4		
X14210	9392	CAA32 427	9393	NM_0010 07	9394	P12750	9395	100	ribosomal protein S4		X14210cds RNRPS4 Rat mRNA for ribosomal protein S4		
X14254	9396	CAA32 468	9397	K01144	9398	P04233	9399	66	MHC class II- associated invariant chain		X14254cds RNIMHC2I Rat mRNA for MHC class II-associated invariant chain		
X14254	9400	CAA32 468	9401	K01144	9402	P04233	9403	66	MHC class II- associated invariant chain		X14254cds RNIMHC2I Rat mRNA for MHC class II-associated invariant chain		
X14323	9404	CAA32 503	9405	NM_0041 07	9406	P55899	9407	59	IgG receptor FcRn large subunit p51		X14323cds RNIGGR51 Rat mRNA for IgG receptor FcRn large subunit p51		
X14323	9408	CAA32 503	9409	NM_0041 07	9410	P55899	9411	59	IgG receptor FcRn large subunit p51		X14323cds RNIGGR51 Rat mRNA for IgG receptor FcRn large subunit p51		
X14323	9412	CAA32 503	9413	NM_0041 07	9414	P55899	9415	59	IgG receptor FcRn large subunit p51		X14323cds RNIGGR51 Rat mRNA for IgG receptor FcRn large subunit p51		
X14323	9416	CAA32 503	9417	NM_0041 07	9418	P55899	9419	59	IgG receptor FcRn large subunit p51		X14323cds RNIGGR51 Rat mRNA for IgG receptor FcRn large subunit p51		
X14671	9420	CAA32 801	9421	XM_03045 6		XP_030 456		87	liver mRNA for ribosomal protein L26	AA893493	X14671cds RRRPL26 Rat liver mRNA for ribosomal protein L26		
X14848	9422	No human homolo g found.		No Human Protein Found.					Rattus norvegicus mitochondrial genome		X14848cds#12 MIRNXX Rattus norvegicus mitochondrial genome		
X14848	9423	No human homolo g found.		No Human Protein Found.					Rattus norvegicus mitochondrial genome	AA945152	X14848cds#12 MIRNXX Rattus norvegicus mitochondrial genome		

Table 2.

X14848	9424	No human homolog found.									Rattus norvegicus mitochondrial genome	X14848cds#2 MIRNXX Rattus norvegicus mitochondrial genome			
X14848	9425	No human homolog found.									Rattus norvegicus mitochondrial genome	X14848cds#2 MIRNXX Rattus norvegicus mitochondrial genome			
X15468	9426	CAA33 495	9427	NM_0008 14	9428	P28472	9429	94			GABA(A) receptor beta-3 preprotein	X15468cds RSGARB3 Rat mRNA for GABA(A) receptor beta-3 subunit			
X15512	9430	P19939	9431	NM_0016 45	9432	P02654	9433	66			Apolipoprotein CI	X15512 Rat mRNA for apolipoprotein CI /cds=(83,349) /gb=X15512 /gi=55676 /ug=Rn.8887 /len=435	Extracellular.		Apolipoprotein C-I precursor (Apo-CI).
X15705	9434	CAA33 735	9435	U56725	9436	P54652	9437	90			HST protein (AA 1-633)	X15705cds RNHST70A Rat testis-specific heat shock protein-related gene hst70			
X16002	9438	CAA34 133	9439	M55514	9440	P22459	9441	73			Putative potassium channel subunit protein (RCK4)	X16002cds RNRCK4 Rat mRNA for putative potassium channel subunit protein (RCK4)			
X16038	9442	NP_037 191	9443	XM_00182 6	9444	XP_001 826	9445	91			Alkaline phosphatase	X16038exon RNALPH13 R.norvegicus gene encoding alkaline phosphatase, exon 13			
X16043	9446	CAA34 166	9447	NM_0027 15	9448	P05323	9449	99			phosphatase 2A	X16043cds RNP2A2 Rat mRNA for phosphatase 2A catalytic subunit isotype alpha (EC 3.1.3.-)			
X16072	9450	P26775	9451	A1700368	9452	JC2009		89.72			R.norvegicus CRYBB2 gene (crystallin, beta B2)	X16072 Rattus norvegicus mRNA for beta B2 crystallin /cds=(26,643) /gb=X16072 /gi=3127917 /ug=Rn.10350 /len=735			Beta crystallin B2 (BP).
X16145	9453	P17164	9454	BC017338	9455	P04066	9456	84.76			Rat mRNA for liver a-L-Fucosidase	X16145 Rat mRNA for liver a-L-Fucosidase (EC 3.2.1.51) /cds=(11,1399) /gb=X16145 /gi=556550 /ug=Rn.3469 /len=1478.	Lysosomal.		Tissue alpha-L-fucosidase precursor (EC 3.2.1.51) (Alpha-L-fucosidase) (Alpha-L-fucoside fucosylase).

Table 2.

X16262	9457	Q9JLT0	9458	BC000280	9459	P35749	9460	93.85	Myosin heavy chain 11		X16262 Rat mRNA for alternatively spliced smooth muscle myosin heavy chain (clone RAMHC21) /cds=(0,1865) /gb=X16262 /gl=56650 /ug=Rn.10487 /len=2348		"Myosin heavy chain, nonmuscle type B (Cellular myosin heavy chain, type B) (Nonmuscle myosin heavy chain-B) (NMMHC-B)."
X16262	9461	Q9JLT0	9462	BC000280	9463	NP_002465	9464	93.85	Myosin heavy chain 21		X16262 Rat mRNA for alternatively spliced smooth muscle myosin heavy chain (clone RAMHC21) /cds=(0,1865) /gb=X16262 /gl=56650 /ug=Rn.10487 /len=2348		"Myosin heavy chain, nonmuscle type B (Cellular myosin heavy chain, type B) (Nonmuscle myosin heavy chain-B) (NMMHC-B)."
X16273	9465	CAA34349	9466	NM_000295	9467	P01009	9468	66	serine proteinase inhibitor-like protein		X16273cds RNSPILP Rat mRNA for serine proteinase inhibitor-like protein, partial		
X16273	9469	CAA34349	9470	NM_000295	9471	P01009	9472	66	serine proteinase inhibitor-like protein		X16273cds RNSPILP Rat mRNA for serine proteinase inhibitor-like protein, partial		
X16273	9473	CAA34349	9474	NM_000295	9475	P01009	9476	66	serine proteinase inhibitor-like protein		X16273cds RNSPILP Rat mRNA for serine proteinase inhibitor-like protein, partial		
X16273	9477	CAA34349	9478	NM_000295	9479	P01009	9480	66	serine proteinase inhibitor-like protein		X16273cds RNSPILP Rat mRNA for serine proteinase inhibitor-like protein, partial		
X16476	9481	CAA34497	9482	XM_030504		XP_030504		88	Potassium channel protein		X16476cds RSDRK1PC Rat drk1 gene mRNA for potassium channel protein		

Table 2.

X16481	9483	P04550	9484	No human homolog found.		No Human Protein Found.				Zinc(2+) binding protein		X16481 Rat mRNA for zinc(2+) binding protein /cds=(115,423) /gb=X16481 /gi=55538 /ug=Rn.3609 /len=912		Parathyromosin (Zinc-binding 11.5 kDa protein).
X16933	9485	CAA34 808	9486	M94630	9487	Q14103	9488	81		Rat mRNA for hnRNP C protein, partial		X16933cds RSHNRNPC Rat mRNA for hnRNP C protein, partial		
X16933	9489	CAA34 808	9490	M94630	9491	Q14103	9492	81		Rat mRNA for hnRNP C protein, partial		X16933cds RSHNRNPC Rat mRNA for hnRNP C protein, partial		
X17163	9493	CAA35 084	9494	J04111	9495	AAA591 97	9496	78		c-jun proto oncogene (JUN)	A1175959	X17163cds RSJUNAP1 Rat c-jun oncogene mRNA for transcription factor AP-1		
X17163	9497	CAA35 041	9498	XM_00147 2	9499	XP_001 472	9500	78		c-jun oncogene mRNA for transcription factor AP-1	AA945867	X17163cds RSJUNAP1 Rat c-jun oncogene mRNA for transcription factor AP-1		
X51529	9501	CAA35 909	9502	NM_0003 00	9503	P14555	9504	71		platelet phospholipase A2		X51529 Rat gene for platelet phospholipase A2 /cds=(549,989) /gb=X51529 /gi=56930 /ug=Rn.11346 /len=1262		
X51615	9505	AAD50 911	9506	XM_00716 9		XP_007 169				connexin protein Cx26	AF170284	X51615 RRCX26 R.rattus RNA for connexin protein Cx26		
X51706	9507	CAA36 002	9508	XM_01240 7		XP_012 407		92		Ribosomal protein L9		X51706cds RRRPL9 Rat mRNA for ribosomal protein L9		
X51706	9509	CAA36 002	9510	XM_01240 7		XP_012 407		92		Ribosomal protein L9		X51706cds RRRPL9 Rat mRNA for ribosomal protein L9		
X52140	9511	P18614	9512	NM_0122 11	9513	Q9UKX5	9514	37		integrin alpha-1.		X52140 Rat mRNA for integrin alpha-1 /cds=(419,3961) /gb=X52140 /gi=56493 /ug=Rn.11491 /len=3974	Type I membrane protein.	Integrin alpha-1 precursor (Laminin and collagen receptor) (VLA-1)(CD49a).
X52711	9515	P18588	9516	NM_0024 62	9517	P20591	9518	67		Mx1		X52711 Rat mRNA for Mx1 protein /cds=(114,2072) /gb=X52711 /gi=56720 /ug=Rn.10373 /len=3114	Nuclear.	Interferon-induced GTP-binding protein Mx1.
X52733	9519	CAA36 947	9520	NM_0009 90	9521	P46776	9522	85		ribosomal protein L27a	A1177054	X52733cds RRRPL27A Rat mRNA for ribosomal protein L27a		

Table 2.

X52817	9523	CAA37001	9524	XM_050865		XP_050865		82	C1-13 gene product (AA 1-267)		X52817cds RSC113 Rat mRNA for C1-13 gene product		
X52840	9525	P18666	9526	X54304	9527	P19105	9528	97	Myosin regulatory light chain		X52840 Rat mRNA for smooth muscle myosin RLC-B /cds=(17,535) /gb=X52840 /gi=56702 /ug=Rn.2967 /len=1113		"Myosin regulatory light chain 2-B, smooth muscle isoform (MyosinRLC-B)."
X53052	9529	CAA37219	9530	NM_012064	9531	NP_036196	9532	85	Rat mRNA for main intrinsic protein		X53052cds RRMIP Rat mRNA for main intrinsic protein		
X53054	9533	P18211	9534	XM_053421		XP_053421		67	Rat mRNA for RT1.D beta chain		X53054 Rat mRNA for RT1.D beta chain /cds=(15,809) /gb=X53054 /gi=57169 /ug=Rn.11299 /len=1197		"RT1 class II histocompatibility antigen, D-1 beta chain precursor."
X53054	9535	P18211	9536	XM_053421		XP_053421		67	Rat mRNA for RT1.D beta chain		X53054 Rat mRNA for RT1.D beta chain /cds=(15,809) /gb=X53054 /gi=57169 /ug=Rn.11299 /len=1197		"RT1 class II histocompatibility antigen, D-1 beta chain precursor."
X53054	9537	P18211	9538	XM_053421		XP_053421		67	Rat mRNA for RT1.D beta chain		X53054 Rat mRNA for RT1.D beta chain /cds=(15,809) /gb=X53054 /gi=57169 /ug=Rn.11299 /len=1197		"RT1 class II histocompatibility antigen, D-1 beta chain precursor."
X53054	9539	P18211	9540	XM_053421		XP_053421		67	Rat mRNA for RT1.D beta chain		X53054 Rat mRNA for RT1.D beta chain /cds=(15,809) /gb=X53054 /gi=57169 /ug=Rn.11299 /len=1197		"RT1 class II histocompatibility antigen, D-1 beta chain precursor."
X53231	9541	P18889	9542	No human homolog found.		No Human Protein Found.			Preoptic regulatory factor-1	NM_022688	X53231 Rat mRNA for preoptic regulatory factor-1 (PORF-1) /cds=(26,139) /gb=X53231 /gi=56949 /ug=Rn.19843 /len=689	Secreted .	Putative preoptic regulatory factor-1 precursor (PORF-1).

Table 2.

X53565	9543	P19814	9544	BC008461	9545	O43493	9546	82.29	trans-Golgi network integral membrane protein TGN38		X53565 Rat mRNA for trans-Golgi network integral membrane protein TGN38 /cds=(11,1084) /gb=X53565 /gi=57346 /lug=Rn.11349 /len=2750	TRANS-GOLGI NETWORK.	Trans-golgi network integral membrane protein TGN38 precursor.
X53581	9547	No human homolog found.		No Human Protein Found.					R.norvegicus long interspersed repetitive DNA containing 7 ORF's		X53581cds#3 RNLINED R.norvegicus long interspersed repetitive DNA containing 7 ORF's		
X53581	9548	No human homolog found.		No Human Protein Found.					R.norvegicus long interspersed repetitive DNA containing 7 ORF's		X53581cds#3 RNLINED R.norvegicus long interspersed repetitive DNA containing 7 ORF's		
X53581	9549	No human homolog found.		No Human Protein Found.					R.norvegicus long interspersed repetitive DNA containing 7 ORF's		X53581cds#5 RNLINED R.norvegicus long interspersed repetitive DNA containing 7 ORF's		
X53581	9550	No human homolog found.		No Human Protein Found.					R.norvegicus long interspersed repetitive DNA containing 7 ORF's		X53581cds#5 RNLINED R.norvegicus long interspersed repetitive DNA containing 7 ORF's		

Table 2.

X53773	9551	P18484	9552	AC006942	9553	AAD155 64	9554	73	alpha-c large chain (AA 1- 938)		X53773 Rat mRNA for alpha-c large chain of the protein complex AP-2 associated with clathrin /cds=(36,2852) /gb=X53773 /gi=55728 /ug=Rn.5073 /len=3109	COMPONENT OF THE COAT SURROUNDING THE CYTOPLASMIC FACE OF COATED VESICLES IN THE PLASMA MEMBRANE	Adaptor-related protein complex 2 alpha 2 subunit (Alpha- adaptin C)(Clathrin assembly protein complex 2 alpha-C large chain) (100 kDa) coated vesicle protein C) (Plasma membrane adaptor HA2/AP2 adapina
X53944	9555	P19020	9556	NM_0336 63	9557	P35462	9558	89.41	Dopamine receptor 3		X53944 Rat mRNA for dopamine D3 receptor /cds=(81,1421) /gb=X53944 /gi=56060 /ug=Rn.10356 /len=1481	Integral membrane protein.	D(3) dopamine receptor.
X54096	9559	P18424	9560	M12625	9561	P04180	9562	86.58	Lecithin- cholesterol acyltransferase		X54096 Rat mRNA for lecithin-cholesterol acyltransferase (EC 2.3.1.43) (LCAT) /cds=(21,1343) /gb=X54096 /gi=56563 /ug=Rn.10481 /len=1362		Phosphatidylcho line-sterol acyltransferase precursor (EC 2.3.1.43)(Lecithi n-cholesterol acyltransferase) (Phospholipid- cholesterolacyltr ansferase).
X54249	9563	CAA38 150	9564	XM_04708 4		XP_047 084		75	Zinc finger protein AT- BP1		X54249mRNA RRATBP1 Rat mRNA for a zinc finger protein AT-BP1, partial cds		
X54249	9565	CAA38 150	9566	XM_04708 4		XP_047 084		75	Zinc finger protein AT- BP1		X54249mRNA RRATBP1 Rat mRNA for a zinc finger protein AT-BP1, partial cds		

Table 2.

X54510	9567	P21571	9568	BC002872	9569	P18859	9570	92.28	R.norvegicus mRNA for coupling factor 6 of mitochondrial ATP synthase complex		X54510 R.norvegicus mRNA for coupling factor 6 of mitochondrial ATP synthase complex /cds=(161,487) /gb=X54510 /gj=14214 /ug=Rn.5790 /len=573		"ATP synthase coupling factor 6, mitochondrial precursor (EC 3.6.3.14)(F6)."
X54510	9571	P21571	9572	BC002872	9573	P18859	9574	92.28	R.norvegicus mRNA for coupling factor 6 of mitochondrial ATP synthase complex		X54510 R.norvegicus mRNA for coupling factor 6 of mitochondrial ATP synthase complex /cds=(161,487) /gb=X54510 /gj=14214 /ug=Rn.5790 /len=573		"ATP synthase coupling factor 6, mitochondrial precursor (EC 3.6.3.14)(F6)."
X54510	9575	P21571	9576	BC002872	9577	P18859	9578	92.28	R.norvegicus mRNA for coupling factor 6 of mitochondrial ATP synthase complex		X54510 R.norvegicus mRNA for coupling factor 6 of mitochondrial ATP synthase complex /cds=(161,487) /gb=X54510 /gj=14214 /ug=Rn.5790 /len=573		"ATP synthase coupling factor 6, mitochondrial precursor (EC 3.6.3.14)(F6)."
X54510	9579	P21571	9580	BC002872	9581	P18859	9582	92.28	R.norvegicus mRNA for coupling factor 6 of mitochondrial ATP synthase complex		X54510 R.norvegicus mRNA for coupling factor 6 of mitochondrial ATP synthase complex /cds=(161,487) /gb=X54510 /gj=14214 /ug=Rn.5790 /len=573		"ATP synthase coupling factor 6, mitochondrial precursor (EC 3.6.3.14)(F6)."
X54617	9583	CAA38 437	9584	XM_04167 7		XP_041 677		100	RLC-A gene for myosin regulatory light chain		X54617mRNA RNRLCAE4 Rat RLC-A gene for myosin regulatory light chain, exon 4		

Table 2.

X54793	9585	P19226	9586	BF063615	9587	P10809	9588	95	Heat shock protein 60 (liver)		X54793 Rat liver mRNA for heat shock protein (hsp60) /cds=(6,1727) /gb=X54793 /gi=56382 /ug=Rn.221 /len=2175	Mitochondrial matrix.	"60 kDa heat shock protein, mitochondrial precursor (Hsp60) (60 kDachaperonin) (CPN60) (Heat shock protein 60) (HSP-60) (Mitochondrial matrix protein P1) (HSP-65)."
X55286	9589	P51639	9590	M11058	9591	P04035	9592	92	3-hydroxy-3-methylglutaryl-Coenzyme A reductase		X55286 R.norvegicus mRNA for HMG-CoA reductase /cds=(0,734) /gb=X55286 /gi=296924 /ug=Rn.10469 /len=1159	Integral membrane protein. Endoplasmic reticulum.	3-hydroxy-3-methylglutaryl-coenzyme A reductase (EC 1.1.1.34) (HMG-CoA reductase).
X55286	9593	P51639	9594	M11058	9595	P04035	9596	92	3-hydroxy-3-methylglutaryl-Coenzyme A reductase		X55286 R.norvegicus mRNA for HMG-CoA reductase /cds=(0,734) /gb=X55286 /gi=296924 /ug=Rn.10469 /len=1159	Integral membrane protein. Endoplasmic reticulum.	3-hydroxy-3-methylglutaryl-coenzyme A reductase (EC 1.1.1.34) (HMG-CoA reductase).
X55286	9597	P51639	9598	M11058	9599	P04035	9600	92	3-hydroxy-3-methylglutaryl-Coenzyme A reductase		X55286 R.norvegicus mRNA for HMG-CoA reductase /cds=(0,734) /gb=X55286 /gi=296924 /ug=Rn.10469 /len=1159	Integral membrane protein. Endoplasmic reticulum.	3-hydroxy-3-methylglutaryl-coenzyme A reductase (EC 1.1.1.34) (HMG-CoA reductase).
X55286	9601	P51639	9602	M11058	9603	P04035	9604	92	3-hydroxy-3-methylglutaryl-Coenzyme A reductase		X55286 R.norvegicus mRNA for HMG-CoA reductase /cds=(0,734) /gb=X55286 /gi=296924 /ug=Rn.10469 /len=1159	Integral membrane protein. Endoplasmic reticulum.	3-hydroxy-3-methylglutaryl-coenzyme A reductase (EC 1.1.1.34) (HMG-CoA reductase).

Table 2.

X55446	9605	P24470	9606	AW450584	9607	NP_000760	9608	89.03	Rat mRNA for cytochrome P-450 (CYP2C23)		X55446mRNA Rat mRNA for cytochrome P-450 (CYP2C23) /cds=UNKNOWN /gb=X55446 /gi=56824 /ug=Rn.2184 /len=2088	Membrane-bound. Endoplasmic reticulum.	Cytochrome P450 2C23 (EC 1.14.14.1) (CYP11C23) (Arachidonic aciddeoxygenase).
X55660	9609	P23377	9610	X17094	9611	P09958	9612	95.49	pcRF104 mRNA for furin		X55660 Rat pcRF104 mRNA for furin /cds=(443,2824) /gb=X55660 /gi=56171 /ug=Rn.3220 /len=4259	SEEMS TO BE LOCALIZED INTRACELLULARLY TO THE TRANS GOLGI NETWORK. PROPEPTIDASE CLEAVAGE IS A PREREQUISITE FOR EXIT OF FURIN MOLECULES OUT OF THE ENDOPLASMIC RETICULUM (ER). SECOND CLEAVAGE IN THE PROPEPTIDASE	Furin precursor (EC 3.4.21.75) (Paired basic amino acid residuecleaving enzyme) (PACE) (Dibasic processing enzyme).

Table 2.

X55660	9613	P23377	9614	X17094	9615	P09958	9616	95.49	furin prepeptide		X55660 Rat pcRF104 mRNA for furin /cds=(443,2824) /gb=X55660 /gi=56171 /ug=Rn.3220 /len=4259	SEEMS TO BE LOCALIZED INTRACELL ULARLY TO THE TRANS GOLGI NETWORK. PROPEPTID E CLEAVAGE IS A PREREQUIS ITE FOR EXIT OF FURIN MOLECULE S OUT OF THE ENDOPLAS MIC RETICULUM (ER). SECOND CLEAVAGE IN THE	Furin precursor (EC 3.4.21.75) (Paired basic amino acid residuecleaving enzyme) (PACE) (Dibasic processing enzyme).
X56133	9617	P15999	9618	NM_0040 46	9619	P25705	9620	97	F1-ATPase alpha subunit		X56133 Rat mRNA for F1-ATPase alpha subunit (EC 3.6.1.34) /cds=(0,707) /gb=X56133 /gi=57028 /ug=Rn.7138 /len=1066	Mitochondrial inner membrane. PROPEP	"ATP synthase alpha chain, mitochondrial precursor (EC 3.6.3.14)(Fragm ent)."
X56228	9621	P24329	9622	XM_03866 1		XP_038 661		90	Rhodanese		X56228 Rat mRNA for rhodanese /cds=(0,887) /gb=X56228 /gi=57068 /ug=Rn.6360 /len=999	Mitochondrial matrix.	Thiosulfate sulfurtransferas e (EC 2.8.1.1) (Rhodanese) (Fragment).
X56228	9623	P24329	9624	XM_03866 1		XP_038 661		90	Rhodanese		X56228 Rat mRNA for rhodanese /cds=(0,887) /gb=X56228 /gi=57068 /ug=Rn.6360 /len=999	Mitochondrial matrix.	Thiosulfate sulfurtransferas e (EC 2.8.1.1) (Rhodanese) (Fragment).

Table 2.

X56306	9625	P06767	9626	X54469	9627	P20366	9628	93.07	Tachykinin (substance P, neurokinin A, neuropeptide K, neuropeptide gamma)		X56306 Rat mRNA of delta-preprotachykinin - a splicing variant of substance P precursor /cds=(4,297) /gb=X56306 /gi=56067 /ug=Rn.1920 /len=342	Protachykinin 1 precursor (PPT) [Contains: Substance P; Neurokinin A(NKA) (Substance K) (Neuromedin L); Neuropeptide K (NPK); Neuropeptidega mma; C- terminal flanking peptide].
X56551	9629	Q02195	9630	A36301		P21781	9631	90	Fibroblast growth factor 7		X56551cds RNMRNAKGF R.norvegicus mRNA for keratinocyte growth factor	Keratinocyte growth factor precursor (KGF) (Fibroblast growth factor-7) (FGF-7) (HBGF- 7).
X56596	9632	P29826	9633	BM72735 5	9634	P05538	9635	96.99	Rat mRNA for MHC class II antigen RT1.B- 1 beta-chain		X56596 Rat mRNA for MHC class II antigen RT1.B-1 beta-chain /cds=(7,798) /gb=X56596 /gi=57152 /ug=Rn.20089 /len=1374	"RT1 class II histocompatibilit y antigen, B-1 beta chain precursor(RT1. B-beta(1))."
X56729	9636	CAA40 053	9637	D16217	9638	P20810	9639	56	calpastatin/CA NP inhibitor		X56729mRNA RSCALPST Rat mRNA for calpastatin	
X56729	9640	CAA40 053	9641	D16217	9642	P20810	9643	56	calpastatin/CA NP inhibitor		X56729mRNA RSCALPST Rat mRNA for calpastatin	
X57405	9644	CAA40 667	9645	XM_03467 1	9646	XP_034 671	9647	51	Homologue of Drosophila notch protein		X57405 RRNOTCH R.rattus mRNA homologue of Drosophila notch protein	
X57405	9648	CAA40 667	9649	XM_03467 1	9650	XP_034 671	9651	51	Homologue of Drosophila notch protein		X57405 RRNOTCH R.rattus mRNA homologue of Drosophila notch protein	

Table 2.

X57405	9652	CAA40 667	9653	XM_03467 1	9654	XP_034 671	9655	51	Homologue of Drosophila notch protein		X57405 RRNOTCH R.rattus mRNA homologue of Drosophila notch protein		
X57405	9656	CAA40 667	9657	XM_03467 1	9658	XP_034 671	9659	51	Homologue of Drosophila notch protein		X57405 RRNOTCH R.rattus mRNA homologue of Drosophila notch protein		
X57523	9660	P36370	9661	M84748	9662	Q03519	9663	89.32	R.norvegicus mtp1 mRNA		X57523 R.norvegicus mtp1 mRNA /cds=(0,2224) /gb=X57523 /gi=56716 /ug=Rn.10763 /len=2664	Integral membrane protein.	Antigen peptide transporter 1 (APT1).
X57523	9664	P36370	9665	M84748	9666	Q03519	9667	89.32	mtp1		X57523 R.norvegicus mtp1 mRNA /cds=(0,2224) /gb=X57523 /gi=56716 /ug=Rn.10763 /len=2664	Integral membrane protein.	Antigen peptide transporter 1 (APT1).
X58200	9668	CAA41 177	9669	NM_0009 78	9670	P23131	9671	94	ribosomal protein L23		X58200mRNA RRRPL23 Rat mRNA for ribosomal protein L23		
X58200	9672	CAA41 177	9673	NM_0009 78	9674	P23131	9675	94	ribosomal protein L23		X58200mRNA RRRPL23 Rat mRNA for ribosomal protein L23		
X58294	9676	P27139	9677	J03037	9678	P00918	9679	85.71	Carbonic anhydrase II		X58294 R.norvegicus mRNA for carbonic anhydrase II /cds=(8,790) /gb=X58294 /gi=55837 /ug=Rn.3525 /len=1459	Cytoplasmic.	Carbonic anhydrase II (EC 4.2.1.1) (Carbonate dehydratase II) (CA-II).
X58631	9680	CAA41 484	9681	NM_0043 83	9682	P41240	9683	98	protein- tyrosine kinase		X58631cds RPTYKI Rat mRNA for protein- tyrosine kinase		
X58830	9684	Q04906	9685	A1367148	9686	P22004	9687	92.19	Bone morphogeneti c protein 6		X58830 Rat vgr mRNA /cds=(0,623) /gb=X58830 /gi=57475 /ug=Rn.10436 /len=1241		Bone morphogenetic protein 6 precursor (BMP- 6) (VG-1-related protein)(VGR-1) (Fragment).

Table 2.

X58865	9688	P30835	9689	D25328	9690	Q01813	9691	91.38	6-phosphofructokinase		X58865 mRNA Rat PFK-L mRNA for liver phosphofructokinase /cds=UNKNOWN /gb=X58865 /gi=56886 /ug=Rn.10981 /len=2740		"6-phosphofructokinase, liver type (EC 2.7.1.11) (Phosphofructokinase 1) (Phosphohexokinase) (Phosphofructo-1-kinase isozyme B) (PFK-B)."
X59132	9692	P23811	9693	A1220044	9694	P47872	9695	93.85	Secretin receptor		X59132 R.norvegicus mRNA for secretin receptor /cds=(212,1561) /gb=X59132 /gi=57228 /ug=Rn.10977 /len=1796	Integral membrane protein.	Secretin receptor precursor (SCT-R).
X59677	9696	CAA42 203	9697	NM_0039 84	9698	Q13183	9699	88	Rattus sp. cDNA for M2 gene (clone M2-798)		X59677 mRNA RSM2798 Rattus sp. cDNA for M2 gene (clone M2-798)		
X59737	9700	CAA42 415	9701	NM_0209 90	9702	NP_066 270	9703	89	Ubiquitous mitochondrial creatine kinase		X59737 mRNA RRCKUM Rat mRNA for ubiquitous mitochondrial creatine kinase		
X59737	9704	CAA42 415	9705	NM_0209 90	9706	NP_066 270	9707	89	Ubiquitous mitochondrial creatine kinase		X59737 mRNA RRCKUM Rat mRNA for ubiquitous mitochondrial creatine kinase		
X59737	9708	CAA42 415	9709	NM_0209 90	9710	NP_066 270	9711	89	Ubiquitous mitochondrial creatine kinase		X59737 mRNA RRCKUM Rat mRNA for ubiquitous mitochondrial creatine kinase		
X59737	9712	CAA42 415	9713	NM_0209 90	9714	NP_066 270	9715	89	Ubiquitous mitochondrial creatine kinase		X59737 mRNA RRCKUM Rat mRNA for ubiquitous mitochondrial creatine kinase		

Table 2.

X59859	9716	Q01129	9717	NM_0019 20	9718	P07585	9719	74	DCN mRNA for decorin		X59859 R.norvegicus DCN mRNA for decorin /cds=(0,1034) /gb=X59859 /gi=56056 /ug=Rn.3819 /len=1534	Extracellular matrix.	Decorin precursor (Bone proteoglycan II) (PG-S2) (PG40) (Dermatansulfat e proteoglycan- II) (DSPG).
X59859	9720	Q01129	9721	NM_0019 20	9722	P07585	9723	74	Decorin		X59859 R.norvegicus DCN mRNA for decorin /cds=(0,1034) /gb=X59859 /gi=56056 /ug=Rn.3819 /len=1534	Extracellular matrix.	Decorin precursor (Bone proteoglycan II) (PG-S2) (PG40) (Dermatansulfat e proteoglycan- II) (DSPG).
X59859	9724	Q01129	9725	NM_0019 20	9726	P07585	9727	74	decorin	A1639233	X59859 R.norvegicus DCN mRNA for decorin /cds=(0,1034) /gb=X59859 /gi=56056 /ug=Rn.3819 /len=1534	Extracellular matrix.	Decorin precursor (Bone proteoglycan II) (PG-S2) (PG40) (Dermatansulfat e proteoglycan- II) (DSPG).
X59859	9728	Q01129	9729	NM_0019 20	9730	P07585	9731	74	DCN mRNA for decorin		X59859 R.norvegicus DCN mRNA for decorin /cds=(0,1034) /gb=X59859 /gi=56056 /ug=Rn.3819 /len=1534	Extracellular matrix.	Decorin precursor (Bone proteoglycan II) (PG-S2) (PG40) (Dermatansulfat e proteoglycan- II) (DSPG).

Table 2.

X59859	9732	Q01129	9733	NM_001920	9734	P07585	9735	74	Decorin		X59859 R.norvegicus DCN mRNA for decorin /cds=(0,1034) /gb=X59859 /gi=56056 /ug=Rn.3819 /len=1534	Extracellular matrix.	Decorin precursor (Bone proteoglycan II) (PG-S2) (PG40) (Dermatansulfate proteoglycan-II) (DSPG).
X59859	9736	Q01129	9737	NM_001920	9738	P07585	9739	74	decorin	A1639233	X59859 R.norvegicus DCN mRNA for decorin /cds=(0,1034) /gb=X59859 /gi=56056 /ug=Rn.3819 /len=1534	Extracellular matrix.	Decorin precursor (Bone proteoglycan II) (PG-S2) (PG40) (Dermatansulfate proteoglycan-II) (DSPG).
X59864	9740	CAA42524	9741	No Human		No Human Protein Found.			ASM15 gene		X59864mRNA RRASM15 Rat ASM15 gene		
X59864	9742	CAA42524	9743	No Human		No Human Protein Found.			ASM15 gene		X59864mRNA RRASM15 Rat ASM15 gene		
X59864	9744	CAA42524	9745	No Human		No Human Protein Found.			ASM15 gene		X59864mRNA RRASM15 Rat ASM15 gene		
X59864	9746	CAA42524	9747	No Human		No Human Protein Found.			ASM15 gene		X59864mRNA RRASM15 Rat ASM15 gene		
X59961	9748	CAA42585	9749	NM_003524	9750	NP_003515	9751	96	H2A and H2B histones		X59961cds#2 R.norvegicus genes for H2A and H2B histones /cds=(0,377) /gb=X59961 /gi=56345 /ug=Rn.11690 /len=378		
X60212	9752	P24049	9753	NM_000985	9754	P18621	9755	91	ribosomal protein L22		X60212 R.norvegicus ASI mRNA for mammalian equivalent of bacterial large ribosomal subunit protein L22 /cds=(29,583) /gb=X60212 /gi=57110 /ug=Rn.11395 /len=612		60S ribosomal protein L17 (L23) (Amino acid starvation-induced protein) (ASI).

Table 2.

X60468	9756	CAA42 998	9757	NM_0011 64	9758	O00213	9759	89	Integrase-like protein, APP interacting protein		X60468mRNA RREF65G R.rattus FE65 gene for adaptor protein interacting with the beta- amyloid precursor protein intracellular domain		
X60469	9760	CAA42 999	9761	NM_0011 64	9762	O00213	9763	93	Integrase-like protein, APP interacting protein		X60469mRNA RREF65 R.rattus FE65 mRNA for adaptor protein interacting with beta- amyloid precursor protein intracellular domain		
X60469	9764	CAA42 999	9765	NM_0011 64	9766	O00213	9767	93	Integrase-like protein, APP interacting protein		X60469mRNA RREF65 R.rattus FE65 mRNA for adaptor protein interacting with beta- amyloid precursor protein intracellular domain		
X60767	9768	P39951	9769	X05360	9770	P06493	9771	84.77	Cell division cycle control protein 2	Nuclear.	X60767mRNA RRDC2MR R.norvegicus mRNA for cdc2 promoter region	Nuclear.	Cell division control protein 2 homolog (EC 2.7.1.-) (p34 protein kinase) (Cyclin- dependent kinase 1) (CDK1).
X60769	9772	P21272	9773	NM_0051 94	9774	NP_005 185	9775	53	SF-B (silencer factor B)	Nuclear.	X60769mRNA Rat sfb mRNA for silencer factor B /cds=UNKNOWN /gb=X60769 /gi=57238 /ug=Rn.6479 /len=1146	Nuclear.	CCAAT/enhanc er binding protein beta (C/EBP beta) (Interleukin-6- dependent binding protein) (IL-6DBP) (Liver- enriched transcriptionalac tivator) (LAP) (Silencer factor B) (SF-B) (C/EBP-related protein 2

Table 2.

X61295	9776	CAA43 593	9777	U93574	9778	AAC512 79	9779	65	R.norvegicus L1 retroposon, ORF2 mRNA (partial)		X61295cds RNL1RTO2B R.norvegicus L1 retroposon, ORF2 mRNA (partial)		
X61381	9780	CAA43 655	9781	BC006794	9782	Q01628	9783	65	interferon induced mRNA		X61381cds RRIIMRNA R. rattus interferon induced mRNA		
X61654	9784	P28648	9785	X07982	9786	P08962	9787	78	Cd63 antigen		X61654 Rat mRNA for ad1-antigen /cds=(60,776) /gb=X61654 /gi=55601 /ug=Rn.11068 /len=860	Integral membrane protein. Lysosomal. SECRETOR Y GRANULES AND PLASMA MEMBRANE OF MANY CULTURED CELL LINES.	CD63 antigen (AD1 antigen).
X62322	9788	P23785	9789	X62320	9790	P28799	9791	89.93	Granulin		X62322 R.norvegicus mRNA for epithelin 1 and 2 /cds=(30,1799) /gb=X62322 /gi=56108 /ug=Rn.5820 /len=2137		Granulins precursor (Acrogranin) [Contains: Granulin 1 (Granulin G);Granulin 2 (Granulin F); Granulin 3 (Granulin B) (Epithelin 2);Granulin 4 (Granulin A) (Epithelin 1); Granulin 5 (Granulin C);Granul

Table 2.

X62322	9792	P23785	9793	X62320	9794	P28799	9795	89.93	Granulin		X62322 R. norvegicus mRNA for epithelin 1 and 2 /cds=(30,1799) /gb=X62322 /gi=56108 /ug=Rn.5820 /len=2137		Granulins precursor (Acrogranin) [Contains: Granulin 1 (Granulin G); Granulin 2 (Granulin F); Granulin 3 (Granulin B) (Epithelin 2); Granulin 4 (Granulin A) (Epithelin 1); Granulin 5 (Granulin C); Granul
X62323	9796	P21677	9797	AA504291	9798	XP_047600	9799	93.65	Pan-1		X62323 R. norvegicus Pan-1 mRNA /cds=(0,1917) /gb=X62323 /gi=35277 /ug=Rn.10290 /len=2001	Nuclear.	Transcription factor E2-alpha (Immunoglobulin enhancer binding factor E12/E47) (Transcription factor-3) (TCF-3) (Transcription regulatorPan).
X62325	9800	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			TcRValphaT4 8a2 mRNA for T cell receptor V-alpha J-alpha		X62325cds RRRT48A2 R.rattus TcRValphaT48a2 mRNA for T cell receptor V-alpha J-alpha		
X62325	9801	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			R.rattus TcRValphaT4 8a2 mRNA for T cell receptor V-alpha J-alpha		X62325cds RRRT48A2 R.rattus TcRValphaT48a2 mRNA for T cell receptor V-alpha J-alpha		
X62660	9802	CAB46530	9803	NM_000847	9804	Q16772	9805	56	Glutathione transferase subunit 8		X62660mRNA RRGTS8 R.rattus mRNA for glutathione transferase subunit 8		

Table 2.

X62839	9806	CAA44 643	9807	AL137790	9808	CAC196 84	9809	54	Voltage-gated potassium channel		X62839mRNA RRPCP3120 R.rattus mRNA for potassium channel protein (3120 bp)		
X62839	9810	CAA44 643	9811	AL137790	9812	CAC196 84	9813	54	Voltage-gated potassium channel		X62839mRNA RRPCP3120 R.rattus mRNA for potassium channel protein (3120 bp)		
X62840	9814	CAA44 644	9815	NM_0049 76	9816	P48547	9817	82	Potassium channel protein		X62840mRNA RRPCP3145 R.rattus mRNA for potassium channel protein (3145 bp)		
X62841	9818	CAA44 645	9819	AL137790	9820	CAC196 84	9821	75	voltage-gated potassium channel		X62841mRNA RRPCP2858 R.rattus mRNA for potassium channel protein (2858 bp)		
X62875	9822	No Rat Protein Found.		XM_04324 4		XP_043 244			High Mobility Group Protein I (Y), 3' UTR		X62875mRNA RNHMG1 R.norvegicus mRNA for High Mobility Group Protein I (Y), 3 UTR		
X62875	9823	No Rat Protein Found.		XM_04324 4		XP_043 244			High Mobility Group Protein I (Y), 3' UTR		X62875mRNA RNHMG1 R.norvegicus mRNA for High Mobility Group Protein I (Y), 3 UTR		
X62950	9824	AAA408 72	9825	XM_00300 9		XP_003 009		76	carboxypeptid ase B.	M23953	X62950mRNA RNPBUS30 R.norvegicus mRNA (pBUS30) with repetitive elements		
X62952	9826	P31000	9827	BF344933	9828	P05388	9829	94.74	Vimentin		X62952 R.norvegicus mRNA for vimentin /cds=(80,1480) /gb=X62952 /gl=57479 /ug=Rn.2710 /len=1796		Vimentin.
X63143	9830	CAA44 848	9831	AF248634	9832	O75056	9833	45	neuroglycan		X63143 RRNEUROG Rattus rattus mRNA for neuroglycan, partial		
X63375	9834	AAA407 80	9835	NM_0016 77	9836	P05026	9837	90	Beta-1 subunit of Na,K- ATPase	J02701	X63375exon RRB1NKATP R.rattus gene for beta-1 subunit of Na,K-ATPase		
X63375	9838	AAA407 80	9839	NM_0016 77	9840	P05026	9841	90	Beta-1 subunit of Na,K- ATPase	J02701	X63375exon RRB1NKATP R.rattus gene for beta-1 subunit of Na,K-ATPase		
X63594	9842	CAA45 138	9843	NM_0205 29	9844	P25963	9845	85	NF-KAPPA B INHIBITOR ALPHA		X63594cds RRRLIF1 R.rattus RL/IF-1 mRNA		
X63594	9846	CAA45 138	9847	NM_0205 29	9848	P25963	9849	85	NF-KAPPA B INHIBITOR ALPHA		X63594cds RRRLIF1 R.rattus RL/IF-1 mRNA		

Table 2.

X63594	9850	CAA45 138	9851	NM_0205 29	9852	P25963	9853	85	NF-KAPPA B INHIBITOR ALPHA		X63594cds RRLIF1 R.rattus RL/IF-1 mRNA		
X63594	9854	CAA45 138	9855	NM_0205 29	9856	P25963	9857	85	NF-KAPPA B INHIBITOR ALPHA		X63594cds RRLIF1 R.rattus RL/IF-1 mRNA		
X63854	9858	P36372	9859	X57522	9860	Q03518	9861	88	mtp2a		X63854 Rat mRNA for transporter polypeptide mtp2 /cds=(89,2200) /gb=X63854 /gi=56718 /ug=Rn.10372 /len=2426	Integral membrane protein.	Antigen peptide transporter 2 (APT2).
X64401	9862	P04800	9863	J04813	9864	P20815	9865	85.96	Cytochrome P450 PCN1		X64401cds RNCYP3A1R R.norvegicus CYP 3A1 mRNA	Membrane- bound Endoplasmic reticulum.	Cytochrome P450 3A1 (EC 1.14.14.1) (CYP3A1) (P450-PCN1).
X64403	9866	P26801	9867	U20240	9868	P53567	9869	92	Rat homolog to a human CCAAT/enhan cer binding protein - gamma		X64403 R.norvegicus cebp gamma mRNA /cds=(0,707) /gb=X64403 /gi=55927 /ug=Rn.10332 /len=1430	Nuclear.	CCAAT/enhanc er binding protein gamma (C/EBP gamma).
X65228	9870	CAA46 336	9871	NM_0009 84	9872	P29316	9873	98	Ribosomal protein L23a		X65228cds RRRPL23A R.rattus mRNA for ribosomal protein L23a		
X65454	9874	Q64375	9875	U47621	9876	Q92791	9877	93.83	SC65 synaptonemal complex protein		X65454 R.norvegicus mRNA for SC65 synaptonemal complex protein /cds=(19,1314) /gb=X65454 /gi=57191 /ug=Rn.10547 /len=1407	NUCLEAR. LOCATED IN THE PAIRING ZONE OF THE SYNAPTON EMAL COMPLEX.	Synaptonemal complex protein SC65.
X65454	9878	Q64375	9879	U47621	9880	Q92791	9881	93.83	SC65 synaptonemal complex protein		X65454 R.norvegicus mRNA for SC65 synaptonemal complex protein /cds=(19,1314) /gb=X65454 /gi=57191 /ug=Rn.10547 /len=1407	NUCLEAR. LOCATED IN THE PAIRING ZONE OF THE SYNAPTON EMAL COMPLEX.	Synaptonemal complex protein SC65.

Table 2.

X65454	9882	Q64375	9883	U47621	9884	Q92791	9885	93.83	SC65 synaptonemal complex protein		X65454 R.norvegicus mRNA for SC65 synaptonemal complex protein /cds=(19,1314) /gb=X65454 /gi=57191 /ug=Rn.10547 /len=1407	NUCLEAR. LOCATED IN THE PAIRING ZONE OF THE SYNAPTON EMAL COMPLEX.	Synaptonemal complex protein SC65.
X65454	9886	Q64375	9887	U47621	9888	Q92791	9889	93.83	SC65 synaptonemal complex protein		X65454 R.norvegicus mRNA for SC65 synaptonemal complex protein /cds=(19,1314) /gb=X65454 /gi=57191 /ug=Rn.10547 /len=1407	NUCLEAR. LOCATED IN THE PAIRING ZONE OF THE SYNAPTON EMAL COMPLEX.	Synaptonemal complex protein SC65.
X65948	9890	P29053	9891	M76766	9892	Q00403	9893	89.74	alpha initiation factor		X65948 R.norvegicus mRNA for alpha initiation factor /cds=(16,966) /gb=X65948 /gi=55623 /ug=Rn.6109 /len=1227	Nuclear.	Transcription initiation factor IIB (General transcription factorTFIIB) (RNA polymerase II alpha initiation factor).
X66022	9894	P56163	9895	U43843	9896	Q92782	9897	93.5	Neuro-d4		X66022mRNA#1 RNND4P R.norvegicus mRNA for neuro-D4 protein	Nuclear and cytoplasmic .	Zinc-finger protein neuro- d4.
X66140	9898	Q63180	9899	AF215824	9900	Q9H2U9	9901	82.3	Epididymal apical protein I		X66140 R.norvegicus mRNA for epididymal apical protein I /cds=(46,2415) /gb=X66140 /gi=56069 /ug=Rn.10357 /len=3586	Type I membrane protein.	ADAM 7 precursor (A disintegrin and metalloproteinase domain 7)(Epididymal apical protein I) (EAP I).

Table 2.

X66366	9902	Q03555	9903	AK025169	9904	Q9NQX 3	9905	95.58	Gephyrin		X66366 R.norvegicus mRNA for gephyrin /cds=(273,2483) /gb=X66366 /gi=56311 /ug=Rn.11032 /len=3345	CYTOPLAS MIC FACE OF GLYCINERG IC POSTSYNA PTIC MEMBRANE S.	Gephyrin (Putative glycine receptor-tubulin linker protein).
X66366	9906	Q03555	9907	AK025169	9908	Q9NQX 3	9909	95.58	Gephyrin		X66366 R.norvegicus mRNA for gephyrin /cds=(273,2483) /gb=X66366 /gi=56311 /ug=Rn.11032 /len=3345	CYTOPLAS MIC FACE OF GLYCINERG IC POSTSYNA PTIC MEMBRANE S.	Gephyrin (Putative glycine receptor-tubulin linker protein).
X66494	9910	P28570	9911	S74039	9912	P48029	9913	95.91	CHOT1 mRNA		X66494 R.norvegicus CHOT1 mRNA /cds=(636,2543) /gb=X66494 /gi=55948 /ug=Rn.10336 /len=3957	Integral membrane protein.	Sodium- dependent choline transporter (CHOT1).
X66845	9914	Q63100	9915	AF063228	9916	O14576	9917	93.2	Dynein, cytoplasmic, intermediate chain 1		X66845 R.norvegicus mRNA for cytoplasmic dynein 74 kD intermediate chain /cds=(158,2089) /gb=X66845 /gi=55923 /ug=Rn.11273 /len=2640		"Dynein intermediate chain 1, cytosolic (DH IC- 1) (Cytoplasmic dyneinintermedi ate chain 1)."
X66870	9918	P48679	9919	AF381029	9920	P02545	9921	92.76	lamin A		X66870 R.norvegicus mRNA for lamin A /cds=(165,2087) /gb=X66870 /gi=56550 /ug=Rn.90 /len=3069	Nuclear.	Lamin A.
X66974	9922	P47728	9923	NM_0070 87	9924	P22676	9925	92.88	R.norvegicus mRNA for calretinin		X66974 R.norvegicus mRNA for calretinin /cds=(54,869) /gb=X66974 /gi=55852 /ug=Rn.10321 /len=1436		Calretinin (CR).
X66974	9926	P47728	9927	NM_0070 87	9928	P22676	9929	92.88	R.norvegicus mRNA for calretinin		X66974 R.norvegicus mRNA for calretinin /cds=(54,869) /gb=X66974 /gi=55852 /ug=Rn.10321 /len=1436		Calretinin (CR).
X67788	9930	P31977	9931	X51521	9932	P15311	9933	95	Ezrin		X67788 R.norvegicus mRNA for ezrin p81 /cds=(0,483) /gb=X67788 /gi=56125 /ug=Rn.773 /len=1489	Cytoplasmic.	Ezrin (p81) (Cytovillin) (Villin 2) (Fragment).

Table 2.

X67859	9934	P38656	9935	NM_003142	9936	P05455	9937	78	MRNA for autoantigen		X67859 R.norvegicus mRNA for autoantigen /cds=(37,1284) /gb=X67859 /gi=55778 /ug=Rn.24494 /len=1501	Nuclear .	Lupus La protein homolog (La ribonucleoprotein) (La autoantigenhomolog).
X67859	9938	P38656	9939	NM_003142	9940	P05455	9941	78	MRNA for autoantigen		X67859 R.norvegicus mRNA for autoantigen /cds=(37,1284) /gb=X67859 /gi=55778 /ug=Rn.24494 /len=1501	Nuclear .	Lupus La protein homolog (La ribonucleoprotein) (La autoantigenhomolog).
X67877	9942	CAA48076	9943	XM_037004	9944	XP_037004	9945	67	cytosolic resiniferatoxin binding protein RBP-26		X67877 R.norvegicus mRNA for cytosolic resiniferatoxin-binding protein /cds=(28,735) /gb=X67877 /gi=311659 /ug=Rn.10317 /len=1526		
X67877	9946	CAA48076	9947	XM_037004	9948	XP_037004	9949	67	cytosolic resiniferatoxin binding protein RBP-26		X67877 R.norvegicus mRNA for cytosolic resiniferatoxin-binding protein /cds=(28,735) /gb=X67877 /gi=311659 /ug=Rn.10317 /len=1526		
X68101	9950	CAA48220	9951	AB028981	9952	XP_048926		90.06	trg		X68101 R.norvegicus trg mRNA /cds=(0,2217) /gb=X68101 /gi=550419 /ug=Rn.10431 /len=3227		
X68394	9953	CAA48460	9954	NM_002524	9955	P01111	9956	94	N-ras gene for p21 protein	AA943331	X68394 R.norvegicus N-ras gene for p21 protein /cds=(135,704) /gb=X68394 /gi=56768 /ug=Rn.11271 /len=3350		
X68782	9957	CAA48681		BC009851	9958	P01871	9959	59	Ig heavy chain VDJ-region CH1-CH2		X68782cds RNIGHCH R.norvegicus mRNA for Ig heavy chain VDJ-region CH1-CH2		
X69903	9960	CAA49528	9961	NM_000418	9962	P24394	9963	46	interleukin 4 receptor		X69903 R.norvegicus mRNA for interleukin 4 receptor /cds=(9,2411) /gb=X69903 /gi=56390 /ug=Rn.10471 /len=2450		

Table 2.

X70062	9964	Q04679	9965	X86400	9966	Q15332	9967	88.24	Gamma subunit of sodium potassium ATPase		X70062 R.norvegicus mRNA for gamma subunit of sodium potassium ATPase /cds=(26,202) /gb=X70062 /gi=56299 /ug=Rn.6700 /len=645	Type III membrane protein	Sodium/potassium-transferring ATPase gamma chain (Sodium pump gammachain) (Na+/K+ ATPase gamma subunit) (FXFD domain-containing iontransport regulator 2).
X70662	9968	Q63277	9969	U33428	9970	Q14722	9971	92.4	potassium channel		X70662 R.norvegicus mRNA for K+ channel protein, beta subunit /cds=(331,1536) /gb=X70662 /gi=467797 /ug=Rn.10478 /len=1706	Cytoplasmic	Voltage-gated potassium channel beta-1 subunit (K+ channel beta-1 subunit) (Kv-beta-1).
X70667	9972	CAA50005	9973	NM_019888	9974	NP_063941	9975	88	Melanocortin-3 receptor		X70667cds RRM3C3RA R.rattus mRNA for melanocortin-3 receptor		
X70706	9976	Q63598	9977	NM_005032	9978	P13797	9979	91.22	T-plastin		X70706cds RNTPLAS R.norvegicus mRNA for T-plastin	Cytoplasmic	T-plastin.
X71127	9980	P31721	9981	X03084	9982	P02746	9983	81.22	complement protein C1q beta chain		X71127 R.norvegicus mRNA for complement protein C1q beta chain /cds=(187,948) /gb=X71127 /gi=510191 /ug=Rn.6702 /len=1095		"Complement C1q subcomponent, B chain precursor."
X71127	9984	P31721	9985	X03084	9986	P02746	9987	81.22	complement protein C1q beta chain		X71127 R.norvegicus mRNA for complement protein C1q beta chain /cds=(187,948) /gb=X71127 /gi=510191 /ug=Rn.6702 /len=1095		"Complement C1q subcomponent, B chain precursor."
X72757	9988	CAA51286	9989	XM_012265		XP_012265		79	R.norvegicus cox Via gene (liver)		X72757 R.norvegicus cox Via gene (liver) /cds=(58,354) /gb=X72757 /gi=495266 /ug=Rn.880 /len=607		
X72757	9990	CAA51286	9991	XM_012265		XP_012265		79	R.norvegicus cox Via gene (liver)		X72757 R.norvegicus cox Via gene (liver) /cds=(58,354) /gb=X72757 /gi=495266 /ug=Rn.880 /len=607		

Table 2.

X73371	9992	Q63203	9993	NM_004001	9994	P31994	9995	52	Fc gamma receptor		X73371 R. norvegicus mRNA for Fc gamma receptor /cds=(124,981) /gb=X73371 /gi=397576 /ug=Rn.10363 /len=1430	Type I membrane protein.	Low affinity immunoglobulin gamma FC region receptor II precursor (FC-gamma RII) (FCRII) (IGG FC receptor II beta).
X73653	9996	P18266	9997	BC000251	9998	P49841	9999	91.73	Tau protein kinase I		X73653 R. norvegicus mRNA for tau protein kinase I /cds=(139,1401) /gb=X73653 /gi=402651 /ug=Rn.10426 /len=1525		Glycogen synthase kinase-3 beta (EC 2.7.1.37) (GSK-3 beta) (Factor A)(FA).
X73911	10000	P36633	10001	U11863	10002	P19801	10003	87.81	Amiloride binding protein		X73911 R. norvegicus mRNA for amiloride binding protein (long form) /cds=(73,2313) /gb=X73911 /gi=395064 /ug=Rn.3190 /len=2650	Extracellular.	Amiloride-sensitive amine oxidase [copper-containing precursor(EC 1.4.3.6) (Diamine oxidase) (DAO) (Amiloride-binding protein)(ABP) (Histaminase).
X74226	10004	CAA52297	10005	AB014538	10006	BAB55164	10007	93.84	LL5 mRNA		X74226 R. norvegicus LL5 mRNA /cds=(152,2497) /gb=X74226 /gi=397578 /ug=Rn.11128 /len=3745		
X74402	10008	P50398	10009	X79353	10010	P31150	10011	90.77	rab GDI alpha		X74402 R. norvegicus rab GDI alpha mRNA /cds=(30,1373) /gb=X74402 /gi=396430 /ug=Rn.11024 /len=1401	Cytoplasmic.	RAB GDP dissociation inhibitor alpha (RAB GDI alpha) (GDI-1).
X74593	10012	P27867	10013	L29008	10014	Q00796	10015	82	Sorbitol dehydrogenase		X74593 R. norvegicus mRNA for sorbitol dehydrogenase /cds=(56,1255) /gb=X74593 /gi=397356 /ug=Rn.11334 /len=2234		Sorbitol dehydrogenase (EC 1.1.1.14) (L-iditol 2-dehydrogenase)

Table 2.

X74800	10016	CAA52 807	10017	X98507	10018	O00159	10019	91	MYR2 mRNA for myosin I heavy chain		X74800 R.norvegicus MYR2 mRNA for myosin I heavy chain /cds=(266,3352) /gb=X74800 /gi=400428 /ug=Rn.10375 /len=3810		
X74834	10020	P18916	10021	NM_0051 99	10022	NP_005 190	10023	90	Cholinergic receptor, nicotinic, gamma polypeptide		X74834cds RNACRG1 R.norvegicus mRNA for acetylcholine receptor gamma-subunit	Integral membrane protein.	"Acetylcholine receptor protein gamma chain precursor."
X74835	10024	P25110	10025	X55019	10026	Q07001	10027	87.01	Cholinergic receptor, nicotinic, delta polypeptide		X74835cds RNZCRD1 R.norvegicus mRNA for acetylcholine receptor delta-subunit	Integral membrane protein.	"Acetylcholine receptor protein delta chain precursor."
X74978	10028	NP_064 457	10029	XM_03982 2	10030	XP_039 822	10031	74	Prostatic acid phosphatase	NM_02007 2	X74978exon RNACPP11 R.norvegicus gene for prostatic acid phosphatase, exon 11		
X75207	10032	P39948	10033	BC000076	10034	P24385	10035	93	Cyclin D1	AA957218	X75207 R.norvegicus CCND1 mRNA for cyclin D1 /cds=(152,1039) /gb=X75207 /gi=473122 /ug=Rn.9471 /len=1454		G1/S-specific cyclin D1.
X75207	10036	P39948	10037	BC000076	10038	P24385	10039	93	Cyclin D1		X75207 R.norvegicus CCND1 mRNA for cyclin D1 /cds=(152,1039) /gb=X75207 /gi=473122 /ug=Rn.9471 /len=1454		G1/S-specific cyclin D1.
X76724	10040	Q64284	10041	AF029749	10042	Q13303	10043	91.06	RCK beta2		X76724 R.norvegicus RCK beta2 mRNA /cds=(592,1695) /gb=X76724 /gi=499327 /ug=Rn.10757 /len=1700	Cytoplasmic.	Voltage-gated potassium channel beta-2 subunit (K+ channel beta- 2subunit) (Kv- 2subunit) (Kv- beta-2) (Neuroimmune protein F5).

Table 2.

X76988	10044	Q11205	10045	X96667	10046	NP_008858	10047	87.89	Gal beta 1,3-GalNAc alpha-2,3-sialyltransferase		X76988cds RNALNACS R.norvegicus mRNA for gal beta 1,3 galNAc alpha 2,3-sialyltransferase	"TYPE II MEMBRANE PROTEIN. MEMBRANE-BOUND FORM IN TRANS CISTERNAE OF GOLGI, SOLUBLE FORM IN BODY FLUIDS."	"CMP-N-acetylneuraminase-beta-galactosamide-alpha-2,3-sialyltransferase (EC 2.4.99.-) (Beta-galactoside alpha-2,3-sialyltransferase) (Alpha2,3-ST) (Gal-beta-1,3-GalNAc-alpha-2,3-sialyltransf"
X77237	10048	P53042	10049	BC001970	10050	P53041	10051	90.92	Protein phosphatase 5, catalytic subunit		X77237 R.norvegicus mRNA for protein phosphatase T /cds=(12,151) /gb=X77237 /gi=863079 /ug=Rn.6107 /len=1973	Nuclear.	Serine/threonine protein phosphatase 5 (EC 3.1.3.16) (PP5) (Proteinphosphatase T) (PPT).
X77934	10052	CAA54906	10053	NM_001642	10054	Q06481	10055	79	Amyloid precursor-like protein 2		X77934cds RNWAPLP2 R.norvegicus (Wistar) mRNA for amyloid precursor-like protein 2		
X77934	10056	CAA54906	10057	NM_001642	10058	Q06481	10059	79	Amyloid precursor-like protein 2		X77934cds RNWAPLP2 R.norvegicus (Wistar) mRNA for amyloid precursor-like protein 2		
X78593	10060	P35571	10061	AK022596	10062	AAB60403	10063	92.07	Glycerol-3-phosphate dehydratase	U83880	X78593 R.norvegicus mRNA for glycerol-3-phosphate dehydrogenase /cds=(91,2274) /gb=X78593 /gi=603582 /ug=Rn.10167 /len=2400	Mitochondrial	"Glycerol-3-phosphate dehydrogenase, mitochondrial precursor(EC 1.1.99.5) (GPD-M) (GPDH-M),"

Table 2.

X78593	10064	P35571	10065	AK022596	10066	AAB60403	10067	92.07	Glycerol-3-phosphate dehydrogenase	U83880	X78593 R.norvegicus mRNA for glycerol-3-phosphate dehydrogenase /cds=(91,2274) /gb=X78593 /gi=603582 /ug=Rn.10167 /len=2400	Mitochondrial	"Glycerol-3-phosphate dehydrogenase, mitochondrial precursor(EC 1.1.99.5) (GPD-M) (GPDH-M)."
X78593	10068	P35571	10069	AK022596	10070	AAB60403	10071	92.07	Glycerol-3-phosphate dehydrogenase	U83880	X78593 R.norvegicus mRNA for glycerol-3-phosphate dehydrogenase /cds=(91,2274) /gb=X78593 /gi=603582 /ug=Rn.10167 /len=2400	Mitochondrial	"Glycerol-3-phosphate dehydrogenase, mitochondrial precursor(EC 1.1.99.5) (GPD-M) (GPDH-M)."
X78593	10072	P35571	10073	AK022596	10074	AAB60403	10075	92.07	Glycerol-3-phosphate dehydrogenase	U83880	X78593 R.norvegicus mRNA for glycerol-3-phosphate dehydrogenase /cds=(91,2274) /gb=X78593 /gi=603582 /ug=Rn.10167 /len=2400	Mitochondrial	"Glycerol-3-phosphate dehydrogenase, mitochondrial precursor(EC 1.1.99.5) (GPD-M) (GPDH-M)."
X78603	10076	Q63055	10077	X91504	10078	Q13795	10079	97	R.norvegicus (Sprague Dawley) ARP1 mRNA for ARF-related protein		X78603 R.norvegicus (Sprague Dawley) ARP1 mRNA for ARF-related protein /cds=(137,742) /gb=X78603 /gi=1103618 /ug=Rn.10973 /len=925		ARF-related protein (ARP).
X78606	10080	P51158	10081	BC018067	10082	P51157	10083	93.66	R.norvegicus (Sprague Dawley) rab28 mRNA for ras-homologous GTPase		X78606 R.norvegicus (Sprague Dawley) rab28 mRNA for ras-homologous GTPase /cds=(18,683) /gb=X78606 /gi=1154900 /ug=Rn.4023 /len=1472		Ras-related protein Rab-28 (RAB-26).

Table 2.

X78949	10084	P54001	10085	M24487	10086	P13674	10087	91.41	Prolyl 4-hydroxylase alpha subunit		X78949 R.norvegicus mRNA for prolyl 4-hydroxylase alpha subunit /cds=(69,1673) /gb=X78949 /gi=474939 /ug=Rn.8531 /len=1838	Endoplasmic reticulum lumen.	"Prolyl 4-hydroxylase alpha-1 subunit precursor (EC 1.14.11.2) (4-PHalpha-1) (Procollagen-proline,2-oxoglutarate-4-dioxygenase alpha-1 subunit)."
X78949	10088	P54001	10089	M24487	10090	P13674	10091	91.41	Prolyl 4-hydroxylase alpha subunit		X78949 R.norvegicus mRNA for prolyl 4-hydroxylase alpha subunit /cds=(69,1673) /gb=X78949 /gi=474939 /ug=Rn.8531 /len=1838	Endoplasmic reticulum lumen.	"Prolyl 4-hydroxylase alpha-1 subunit precursor (EC 1.14.11.2) (4-PHalpha-1) (Procollagen-proline,2-oxoglutarate-4-dioxygenase alpha-1 subunit)."
X79321	10092	P19332	10093	AF456477	10094	NP_058518	10095	93.87	Tau microtubule-associated protein		X79321 R.norvegicus (Wistar) mRNA for tau microtubule-associated protein /cds=(231,1355) /gb=X79321 /gi=517393 /ug=Rn.2455 /len=5208	"MOSTLY FOUND IN THE AXONS OF NEURONS, IN THE CYTOSOL AND IN ASSOCIATION WITH PLASMA MEMBRANE COMPONENTS."	Microtubule-associated protein tau (Neurofibrillary tangle protein)(Paired helical filament-tau) (PHF-tau).
X80130	10096	CAA56429	10097	NIM_005159	10098	P04270	10099	100	Alpha-actin cardiac protein		X80130cds RRALPHAAC R.rattus mRNA for alpha-actin cardiac protein		

Table 2.

X80130	10100	CAA56 429	10101	NM_0051 59	10102	P04270	10103	100	Alpha-actin cardiac protein		X80130cds RRALPHAAC R.rattus mRNA for alpha-actin cardiac protein		
X80130	10104	CAA56 429	10105	NM_0051 59	10106	P04270	10107	100	Alpha-actin cardiac protein		X80130cds RRALPHAAC R.rattus mRNA for alpha-actin cardiac protein		
X80130	10108	CAA56 429	10109	NM_0051 59	10110	P04270	10111	100	Alpha-actin cardiac protein		X80130cds RRALPHAAC R.rattus mRNA for alpha-actin cardiac protein		
X80395	10112	CAA56 604	10113	NM_0030 55	10114	NP_003 046	10115	87	tVAT gene		X80395cds RRRVAT R.rattus tVAT gene		
X82021	10116	P50503	10117	U17714	10118	P50502	10119	89.77	Suppression of tumorigenicity 13 (colon carcinoma) Hsp70- interacting protein		X82021cds RNHSRP R.norvegicus mRNA for heat shock related protein	Cytoplasmic.	Hsc70- interacting protein (Hip) (Putative tumor suppressor ST13).
X82669	10120	P15978	10121	L36318	10122	P30474	10123	75	RT1 class Ib gene (histocompatib ility antigen)		X82669completeSeq R.norvegicus RT1.Au gene /cds=UNKNOWN /gb=X82669 /gi=2909331 /ug=Rn.3577 /len=3949		"Class I histocompatibilit y antigen, Non- RT1.A alpha-1 chain precursor."
X82669	10124	P15978	10125	L36318	10126	P30474	10127	75	RT1 class Ib gene (histocompatib ility antigen)		X82669completeSeq R.norvegicus RT1.Au gene /cds=UNKNOWN /gb=X82669 /gi=2909331 /ug=Rn.3577 /len=3949		"Class I histocompatibilit y antigen, Non- RT1.A alpha-1 chain precursor."

Table 2.

X83537	10128	Q10739	10129	X83535	10130	P50281	10131	91	MT-MMP		X83537 R.norvegicus mRNA for membrane-type matrix metalloproteinase /cds=(172,1920) /gb=X83537 /gi=805012 /ug=Rn.10371 /len=2383	Type I membrane protein .	Matrix metalloproteinase-14 precursor (EC 3.4.24.-) (MMP-14)(Membrane-type matrix metalloproteinase 1) (MT-MMP1) (MTMMP1)(Membrane-type-1 matrix metalloproteinase) (MT1-MMP) (MT1MMP) (MT-MMP).
X83579	10132	P51952	10133	BC000834	10134	P50613	10135	89.05	R.norvegicus mRNA for Cdk activating kinase		X83579 R.norvegicus mRNA for Cdk-activating kinase /cds=(0.940) /gb=X83579 /gi=619508 /ug=Rn.10331 /len=989	Nuclear .	Cell division protein kinase 7 (EC 2.7.1.-) (CDK-activating kinase)(CAK) (TFIIH basal transcription factor complex kinase subunit) (39protein kinase) (P39 Mo15) (Fragment).
X83867	10136	Q64678	10137	U03688	10138	Q16678	10139	84.64	cytochrome P450		X83867cds CYP1B1 R.norvegicus CYP1B1 mRNA for cytochrome P450	Membrane-bound. Endoplasmic reticulum.	Cytochrome P450 1B1 (EC 1.14.14.1) (CYP1B1) (P450RAP).

Table 2.

X84210	10140	P09414	10141	XM_046826		AAC15752	10142	75	Nuclear Factor IA		X84210completeSeq R.norvegicus mRNA for transcription factor NF1 (L4) /cds=UNKNOWN /gb=X84210 /gi=1488642 /ug=Rn.10550 /len=3276	Nuclear.	Nuclear factor 1 A-type (Nuclear factor 1/A) (NF1-A) (NF1-A) (NF1-A) (NF1-A)(CCAAT-box binding transcription factor) (CTF) (TGGCA-bindingprotein).
X84210	10143	P09414	10144	XM_046826		AAC15752	10145	75	Nuclear Factor IA		X84210completeSeq R.norvegicus mRNA for transcription factor NF1 (L4) /cds=UNKNOWN /gb=X84210 /gi=1488642 /ug=Rn.10550 /len=3276	Nuclear.	Nuclear factor 1 A-type (Nuclear factor 1/A) (NF1-A) (NF1-A) (NF1-A) (NF1-A)(CCAAT-box binding transcription factor) (CTF) (TGGCA-bindingprotein).
X87157	10146	P42676	10147	NIM_020726		Q9BYT8	10149	89	neurotensin-degrading neutral metalloendopeptidase; neurolysin		X87157 R.norvegicus mRNA for neurotensin endopeptidase /cds=(143,2257) /gb=X87157 /gi=987086 /ug=Rn.11029 /len=2448	MITOCHONDRIAL INTERMEMBRANE SPACE AND ALSO CYTOPLASMIC.	"Neurolysin, mitochondrial precursor (EC 3.4.24.16) (Neurotensin endopeptidase) (Mitochondrial oligopeptidase M) (Microsomal endopeptidase) (MEP)."

Table 2.

X87885	10150	P97834	10151	NM_004127	10152	Q13098	10153	92	Mammalian fusca protein		X87885 R. norvegicus mRNA for mammalian fusca protein /cds=(0,1415) /gb=X87885 /gi=871527 /ug=Rn.16873 /len=1416	Nuclear and cytoplasmic .	COP9 signalosome complex subunit 1 (G protein pathway suppressor 1)(GPS1 protein) (MFH protein).
X89697	10154	CAA61844	10155	AF399629	10156	AAK95114	10157	72	TPCR07 protein (olfactory receptor)		X89697cds RNTPCR07P R. norvegicus mRNA for TPCR07 protein		
X89698	10158	CAA61845	10159	AF399579	10160	AAK95064	10161	69	TPCR09 protein (putative olfactory receptor)		X89698cds RNTPCR09P R. norvegicus mRNA for TPCR09 protein		
X89703	10162	CAA61850	10163	X89675	10164	CAA61822	10165	46	TPCR19 protein		X89703cds RNTPCR19P R. norvegicus mRNA for TPCR19 protein		
X91810	10166	P52631	10167	L29277	10168	P40763	10169	92.03	Stat3 protein		X91810 R. norvegicus mRNA for Stat3 protein /cds=(0,2312) /gb=X91810 /gi=1107848 /ug=Rn.10247 /len=2924	Nuclear; translocated into the nucleus in response to phosphorylati on .	Signal transducer and activator of transcription 3.
X92070	10170	P51579	10171	BE876713	10172	NP_005437	10173	86.22	P2X6		X92070 R. norvegicus mRNA for P2X6 protein /cds=(13,1152) /gb=X92070 /gi=1279660 /ug=Rn.10258 /len=2167	Integral membrane protein.	P2X purinoceptor 6 (ATP receptor) (P2X6) (Purinergic receptor)(P2XM) (Purinergic receptor P2X- like 1).
X92097	10174	Q63524	10175	BG255482	10176	Q15363	10177	93.82	Coated vesicle membrane protein		X92097 R. norvegicus mRNA for transmembrane protein rnp21.4 /cds=(23,628) /gb=X92097 /gi=1213220 /ug=Rn.22775 /len=716	TYPE I MEMBRANE PROTEIN. GOLGI- DERIVED COATOMER- COATED VESICLES.	Cop-coated vesicle membrane protein p24 precursor (p24A) (RNP21.4).

Table 2.

X92097	10178	Q63524	10179	BG255482	10180	Q15363	10181	93.82	Coated vesicle membrane protein		X92097 R.norvegicus mRNA for transmembrane protein rnp21.4 /cds=(23,628) /gb=X92097 /gi=1213220 /ug=Rn.22775 /len=716	TYPE I MEMBRANE PROTEIN. GOLGI-DERIVED COATOMER-(p24A) COATED VESICLES.	Cop-coated vesicle membrane protein p24 precursor (RNP21.4).
X92184	10182	CAA63095	10183	M77235	10184	Q14524	10185	92.45	Voltage-gated sodium channel (SNS)		X92184 R.norvegicus mRNA for voltage-gated sodium channel (SNS) /cds=(203,6076) /gb=X92184 /gi=1209466 /ug=Rn.10246 /len=6509		
X94246	10186	P51974	10187	AK023855	10188	A54429		94.38	Pax-8 protein		X94246 R.norvegicus mRNA for Pax-8 protein /cds=(45,1421) /gb=X94246 /gi=1122895 /ug=Rn.10392 /len=1693	Nuclear.	Paired box protein Pax-8.
X95850	10189	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			R.norvegicus mRNA for novel gene expressed in circadian manner, clone SCN8		X95850mRNA RN8CN8 R.norvegicus mRNA for novel gene expressed in circadian manner, clone SCN8		
X96394	10190	CAA65258	10191	NM_019900	10192	P33527	10193	84.68	multidrug resistance protein		X96394 R.norvegicus mRNA for multidrug resistance protein /cds=(0,325) /gb=X96394 /gi=1292883 /ug=Rn.10495 /len=813		
X96426	10194	P70531	10195	NM_013302	10196	O00418	10197	86	Skeletal muscle elongation factor-2 kinase		X96426 R.norvegicus mRNA for skeletal muscle elongation factor-2 kinase /cds=(290,2464) /gb=X96426 /gi=1495778 /ug=Rn.10958 /len=4782	Elongation factor 2 kinase (EC 2.7.1.-) (eEF-2 kinase) (eEF-2K)(Calcium/calmodulin-dependent eukaryotic elongation factor-2 kinase).	
X96437	10198	No Rat Protein Found.		X96438	10199	CAA6504	10200		R.norvegicus PRG1 gene (contains a transcription factor domain)		X96437mRNA RNPRG1 R.norvegicus PRG1 gene		

Table 2.

X96437	10201	No Rat Protein Found.		X96438	10202	CAA65304	10203		R.norvegicus PRG1 gene (contains a transcription factor domain)		X96437mRNA RNPRG1 R.norvegicus PRG1 gene			
X96437	10204	No Rat Protein Found.		X96438	10205	CAA65304	10206		R.norvegicus PRG1 gene (contains a transcription factor domain)		X96437mRNA RNPRG1 R.norvegicus PRG1 gene			
X96437	10207	No Rat Protein Found.		X96438	10208	CAA65304	10209		R.norvegicus PRG1 gene (contains a transcription factor domain)		X96437mRNA RNPRG1 R.norvegicus PRG1 gene			
X97374	10210	CAA66043	10211	NM_006228	10212	Q13519	10213	66	Prepronociceptin	X97375	X97374exon RNPPNEX2 R.norvegicus gene encoding prepronociceptin, exon 2			
X98399	10214	CAA67049	10215	Y19039	10216	Q13336	10217	72	Urea transporter		X98399cds RNUT11 R.norvegicus mRNA for urea transporter			
X98564	10218	CAA67174	10219	NM_014379	10220	NP_055194	10221	88.7	Neuronal potassium channel alpha subunit		X98564cds RNNPCA R.norvegicus mRNA for neuronal potassium channel alpha subunit			
X98564	10222	CAA67174	10223	NM_014379	10224	NP_055194	10225	88.7	Neuronal potassium channel alpha subunit		X98564cds RNNPCA R.norvegicus mRNA for neuronal potassium channel alpha subunit			
X99267	10226	O88777	10227	L43964	10228	P49810	10229	89.71	Presenilin-2		X99267 RNK99267 R.norvegicus mRNA for presenilin-2	INTEGRAL MEMBRANE PROTEIN. GOLGI AND ENDOPLASMIC RETICULUM	Presenilin 2 (PS-2).	

Table 2.

X99267	10230	O88777	10231	L43964	10232	P49810	10233	89.71	Presenilin-2		X99267 RNK99267 R.norvegicus mRNA for presenilin-2	INTEGRAL MEMBRANE PROTEIN. GOLGI AND ENDOPLAS MIC RETICULUM	Presenilin 2 (PS-2).
X99267	10234	O88777	10235	L43964	10236	P49810	10237	89.71	Presenilin-2		X99267 RNK99267 R.norvegicus mRNA for presenilin-2	INTEGRAL MEMBRANE PROTEIN. GOLGI AND ENDOPLAS MIC RETICULUM	Presenilin 2 (PS-2).
X99267	10238	O88777	10239	L43964	10240	P49810	10241	89.71	Presenilin-2		X99267 RNK99267 R.norvegicus mRNA for presenilin-2	INTEGRAL MEMBRANE PROTEIN. GOLGI AND ENDOPLAS MIC RETICULUM	Presenilin 2 (PS-2).
X99337	10242	P26453	10243	AF035287	10244	T17219		97.25	Stromal cell derived factor receptor 1		X99337cds RNGP55 R.norvegicus mRNA for glycoprotein 55		
X99337	10245	CAA67711	10246	AF035287	10247	NP_036560	10248	97.25	glycoprotein 55		X99337cds RNGP55 R.norvegicus mRNA for glycoprotein 55		
X99338	10249	CAA67712	10250	AF035287	10251	NP_036560	10252	97.25	Glycoprotein 65		X99338cds RNGP56 R.norvegicus mRNA for glycoprotein 65		
X99338	10253	CAA67712	10254	AF035287	10255	NP_036560	10256	97.25	Glycoprotein 65		X99338cds RNGP56 R.norvegicus mRNA for glycoprotein 65		
Y00311	10257	P08635	10258	AK001968	10259	XP_028540	10260	80.95	Thioesterase II		Y00311 Rat mRNA for thioesterase II (medium-chain S-acyl fatty acid synthetase thioester hydrolase) /cds=(51,842) /gb=Y00311 /gi=57334 /ug=Rn.9674 /len=1271	"S-acyl fatty acid synthase thioesterase, medium chain (EC 3.1.2.14)(Thioesterase II)."	
Y07704	10261	CAA68971	10262	BC017969	10263	XP_039079	10264	85.37	Rattus norvegicus mRNA Best5 protein		Y07704 Rattus norvegicus BEST5 mRNA for hypothetical protein /cds=(5,1087) /gb=Y07704 /gi=3135886 /ug=Rn.14882 /len=3595		

Table 2.

Y07704	10265	CAA68 971	10266	BC017969	10267	XP_039 079	10268	85.37	Rattus norvegicus mRNA Best5 protein			Y07704 Rattus norvegicus BEST5 mRNA for hypothetical protein /cds=(5,1087) /gb=Y07704 /gi=3135886 /ug=Rn.14882 /len=3595		
Y07704	10269	CAA68 971	10270	BC017969	10271	XP_039 079	10272	85.37	Rattus norvegicus mRNA Best5 protein			Y07704 Rattus norvegicus BEST5 mRNA for hypothetical protein /cds=(5,1087) /gb=Y07704 /gi=3135886 /ug=Rn.14882 /len=3595		
Y07704	10273	CAA68 971	10274	BC017969	10275	XP_039 079	10276	85.37	Rattus norvegicus mRNA Best5 protein			Y07704 Rattus norvegicus BEST5 mRNA for hypothetical protein /cds=(5,1087) /gb=Y07704 /gi=3135886 /ug=Rn.14882 /len=3595		
Y09333	10277	O55171	10278	L40401	10279	P49753	10280	71	R.norvegicus mRNA for mitochondrial very-long- chain acyl- CoA thioesterase		Mitochondrial matrix.	Y09333 R.norvegicus mRNA for mitochondrial very-long-chain acyl-CoA thioesterase /cds=(100,1461) /gb=Y09333 /gi=2832738 /ug=Rn.11326 /len=1711	Mitochondrial matrix.	"Acyl coenzyme A thioester hydrolase, mitochondrial precursor(EC 3.1.2.2) (Very- long-chain acyl- CoA thioesterase) (MTE-I)."
Y09333	10281	O55171	10282	L40401	10283	P49753	10284	71	R.norvegicus mRNA for mitochondrial very-long- chain acyl- CoA thioesterase		Mitochondrial matrix.	Y09333 R.norvegicus mRNA for mitochondrial very-long-chain acyl-CoA thioesterase /cds=(100,1461) /gb=Y09333 /gi=2832738 /ug=Rn.11326 /len=1711	Mitochondrial matrix.	"Acyl coenzyme A thioester hydrolase, mitochondrial precursor(EC 3.1.2.2) (Very- long-chain acyl- CoA thioesterase) (MTE-I)."
Y09507	10285	CAA70 701	10286	AB073325	10287	Q16665	10288	96.02	hypoxia- inducible factor 1			Y09507 R.norvegicus mRNA for hypoxia- inducible factor 1 /cds=(123,2600) /gb=Y09507 /gi=2924301 /ug=Rn.10852 /len=2711		
Y12009	10289	O08556	10290	U03882	10291	P41597	10292	87.18	chemokine co- receptor CCR5		Integral membrane protein.	Y12009 R.norvegicus mRNA for chemokine co-receptor CCR5 /cds=(83,1147) /gb=Y12009 /gi=1911138 /ug=Rn.10736 /len=1428		C-C chemokine receptor type 5 (C-C CKR-5) (CC-CCR-5) (CCR-5) (MIP- 1alpha receptor).

Table 2.

Y12009	10293	O08556	10294	U03882	10295	P41597	10296	87.18	R.norvegicus mRNA for chemokine receptor co-receptor CKR5		Y12009 R.norvegicus mRNA for chemokine co-receptor CKR5 /cds=(83,1147) /gb=Y12009 /gi=1911138 /ug=Rn.10736 /len=1428	Integral membrane protein.	C-C chemokine receptor type 5 (C-C CKR-5) (CC-CKR-5) (CCR-5) (MIP-1alpha receptor).
Y12517	10297	P04166	10298	AB009282	10299	O43169	10300	87.68	mitochondrial isoform of cytochrome b5		Y12517cds RNOMB5MIT R.norvegicus mRNA for mitochondrial isoform of cytochrome b5	Mitochondrial outer membrane.	Cytochrome b5 outer mitochondrial membrane isoform precursor.
Y12635	10301	P50517	10302	BC003100	10303	P21281	10304	99	vacuolar adenosine triphosphatase		Y12635 R.norvegicus mRNA for vacuolar adenosine triphosphatase subunit B /cds=(14,1549) /gb=Y12635 /gi=2058353 /ug=Rn.13436 /len=1614	ENDOMEMBRANE.	"Vacuolar ATP synthase subunit B, brain isoform (EC 3.6.3.14) (V-ATPaseB2 subunit) (Vacuolar proton pump B isoform 2) (Endomembrane protonpump 58 kDa subunit)."
Y13275	10305	CAA73724	10306	BC005246	10307	P19075	10308	86.27	D6.1A protein		Y13275 Rattus norvegicus mRNA for D6.1A protein /cds=(229,936) /gb=Y13275 /gi=2765305 /ug=Rn.6087 /len=1164		
Y13336	10309	CAA73780	10310	NM_001344	10311	P46966	10312	88	DAD-1 gene		Y13336cds RNY13336 Rattus norvegicus DAD-1 gene		
Y13336	10313	CAA73780	10314	NM_001344	10315	P46966	10316	88	DAD-1 gene		Y13336cds RNY13336 Rattus norvegicus DAD-1 gene		
Y13381	10317	O08838	10318	U07616	10319	P49418	10320	91.5	Amphiphysin		Y13381cds RNAMPH1 Rattus norvegicus mRNA for amphiphysin, amph1	ASSOCIATED WITH THE CYTOPLASMIC SURFACE OF SYNAPTIC VESICLES.	Amphiphysin.

Table 2.

Y13413	10321	O35827	10322	AF224708	10323	O95704	10324	90.48	Rattus norvegicus mRNA for Fe65L2 protein		Y13413 RNY13413 Rattus norvegicus mRNA for Fe65L2 protein		Amyloid beta A4 precursor protein-binding family B member 3 (Fe65-likeprotein 2).
Y13413	10325	O35827	10326	AF224708	10327	O95704	10328	90.48	Rattus norvegicus mRNA for Fe65L2 protein		Y13413 RNY13413 Rattus norvegicus mRNA for Fe65L2 protein		Amyloid beta A4 precursor protein-binding family B member 3 (Fe65-likeprotein 2).
Y13590	10329	CAA73918	10330	AW995804	10331	XP_051211	10332	87.6	calpastatin		Y13590 Rattus norvegicus mRNA for calpastatin, clone RNCAS110 /cds=(17,268) /gb=Y13590 /gi=2765343 /ug=Rn.10882 /len=328		
Y13591	10333	CAA73919	10334	AW995804	10335	XP_051211	10336	87.6	calpastatin		Y13591 Rattus norvegicus mRNA for calpastatin, clone RNCAS123 /cds=(17,547) /gb=Y13591 /gi=2765345 /ug=Rn.10882 /len=606		
Y15054	10337	O35828	10338	XM_017983		XP_017983		79	70 kD tumor-specific antigen		Y15054 Rattus norvegicus mRNA for 70 kDa tumor specific antigen, partial /cds=(0,1332) /gb=Y15054 /gi=2505956 /ug=Rn.13808 /len=1950		70 kDa WD-repeat tumor rejection antigen (Fragment).
Y15068	10339	g2511703	10340	M86752	10341	P31948	10342	97	Rattus norvegicus mRNA for Hsp70/Hsp90 organizing protein		Y15068 RNRNAHOP Rattus norvegicus mRNA for Hsp70/Hsp90 organizing protein		

Table 2.

Y15748	10343	O55173	10344	AK056253	10345	NP_002604	10346	93.79	3-phosphoinositide dependent protein kinase-1		Y15748 Rattus norvegicus mRNA for PKB kinase /cds=(58,1737) /gb=Y15748 /gi=2665355 /ug=Rn.10905 /len=1879	Cytoplasmic and membrane-associated after cell stimulation leading to its translocation. Tyrosine phosphorylation seems to occur only at the plasma membrane.	3-phosphoinositide dependent protein kinase-1 (EC 2.7.1.37) (Protein kinase B kinase) (PKB kinase).
Y15748	10347	O55173	10348	AK056253	10349	NP_002604	10350	93.79	3-phosphoinositide dependent protein kinase-1		Y15748 Rattus norvegicus mRNA for PKB kinase /cds=(58,1737) /gb=Y15748 /gi=2665355 /ug=Rn.10905 /len=1879	Cytoplasmic and membrane-associated after cell stimulation leading to its translocation. Tyrosine phosphorylation seems to occur only at the plasma membrane.	3-phosphoinositide dependent protein kinase-1 (EC 2.7.1.37) (Protein kinase B kinase) (PKB kinase).
Y16188	10351	CAA76114	10352	Y16187	10353	CAA76113	10354		XCE protein		Y16188 HSY16188 Rattus norvegicus mRNA for XCE protein, partial		
Y17048	10355	O88751	10356	X94700	10357	Q9NZU7	10358	92.24	Rattus norvegicus mRNA for caldendrin		Y17048 RNCALDE Rattus norvegicus mRNA for caldendrin	OCCURS IN BOTH THE CYTOPLASMIC AND CYTOSKELETAL COMPARTMENT OF CELL SOMATA AND DENDRITES.	Calcium-binding protein CaBP1 (Caldendrin).

Table 2.

Y17048	10359	O88751	10360	X94700	10361	Q9NZU7	10362	92.24	Rattus norvegicus mRNA for caldendrin		Y17048 RNCALDE Rattus norvegicus mRNA for caldendrin	OCCURS IN BOTH THE CYTOPLAS MIC AND CYTOSKELETAL COMPARTMENT OF CELL SOMATA AND DENDRITES.	Calcium-binding protein CaBP1 (Caldendrin).
Y17048	10363	O88751	10364	X94700	10365	Q9NZU7	10366	92.24	Rattus norvegicus mRNA for caldendrin		Y17048 RNCALDE Rattus norvegicus mRNA for caldendrin	OCCURS IN BOTH THE CYTOPLAS MIC AND CYTOSKELETAL COMPARTMENT OF CELL SOMATA AND DENDRITES.	Calcium-binding protein CaBP1 (Caldendrin).
Y17048	10367	O88751	10368	X94700	10369	Q9NZU7	10370	92.24	Rattus norvegicus mRNA for caldendrin		Y17048 RNCALDE Rattus norvegicus mRNA for caldendrin	OCCURS IN BOTH THE CYTOPLAS MIC AND CYTOSKELETAL COMPARTMENT OF CELL SOMATA AND DENDRITES.	Calcium-binding protein CaBP1 (Caldendrin).
Y17606	10371	CAA76804	10372	AF043473	10373	XP_009523	10374	90.84	Potassium channel, alpha subunit (Kv9.1)		Y17606 RNO17606 Rattus norvegicus mRNA for potassium channel, alpha subunit (Kv9.1)		

Table 2.

Y17607	10375	CAA76 805	10376	BC004987	10377	NP_002 243	10378	87.59	Rattus norvegicus mRNA for potassium channel, alpha subunit (Kv9.3)		Y17607 RNO17607 Rattus norvegicus mRNA for potassium channel, alpha subunit (Kv9.3)		
Y17607	10379	CAA76 805	10380	BC004987	10381	NP_002 243	10382	87.59	Rattus norvegicus mRNA for potassium channel, alpha subunit (Kv9.3)		Y17607 RNO17607 Rattus norvegicus mRNA for potassium channel, alpha subunit (Kv9.3)		
Z11581	10383	P42264	10384	AJ249209	10385	Q16478	10386	92.52	kainate receptor		Z11581 R. norvegicus mRNA for kainate receptor subunit (ka2) /cds=(202,3141) /gb=Z11581 /gi=56509 /ug=Rn.10053 /len=3702	Integral membrane protein.	"Glutamate receptor, ionotropic kainate 3 precursor (Glutamate receptor7) (GLUR-7) (GluR7)."
Z11995	10387	Q99068	10388	AK027025	10389	P30533	10390	86	R. norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330		Z11995cds RN45KDB R. norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330	INTRACELL ULAR AND ASSOCIATE D WITH CELL SURFACE RECEPTOR S.	Alpha-2- macroglobulin receptor- associated protein precursor(Alpha- 2-MRAP) (Low density lipoprotein receptor-related protein- associated protein 1) (RAP) (GP330-binding 45 kDa protein) (Fragment).

Table 2.

Z11995	10391	Q99068	10392	AK027025	10393	P30533	10394	86	R. norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330		Z11995cds RN45KDB R. norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330	INTRACELL ULAR AND ASSOCIATE D WITH CELL SURFACE RECEPTOR S.	Alpha-2- macroglobulin receptor- associated protein precursor(Alpha- 2-MRAP) (Low density lipoprotein receptor-related protein- associated protein 1) (RAP) (GP330-binding 45 kDa protein) (Fragment).
Z11995	10395	Q99068	10396	AK027025	10397	P30533	10398	86	ALPHA-2- MACROGLOB ULIN RECEPTOR- ASSOCIATED PROTEIN PRECURSOR	AA892810	Z11995cds RN45KDB R. norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330	INTRACELL ULAR AND ASSOCIATE D WITH CELL SURFACE RECEPTOR S.	Alpha-2- macroglobulin receptor- associated protein precursor(Alpha- 2-MRAP) (Low density lipoprotein receptor-related protein- associated protein 1) (RAP) (GP330-binding 45 kDa protein) (Fragment).

Table 2.

Z11995	10399	Q99068	10400	AK027025	10401	P30533	10402	86	R.norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330		Z11995cds RN45KDB R.norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330	INTRACELL ULAR AND ASSOCIATE D WITH CELL SURFACE RECEPTOR S.	Alpha-2- macroglobulin receptor- associated protein precursor(Alpha- 2-MRAP) (Low density lipoprotein receptor-related protein- associated protein 1) (RAP) (GP330-binding 45 kDa protein) (Fragment).
Z11995	10403	Q99068	10404	AK027025	10405	P30533	10406	86	R.norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330		Z11995cds RN45KDB R.norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330	INTRACELL ULAR AND ASSOCIATE D WITH CELL SURFACE RECEPTOR S.	Alpha-2- macroglobulin receptor- associated protein precursor(Alpha- 2-MRAP) (Low density lipoprotein receptor-related protein- associated protein 1) (RAP) (GP330-binding 45 kDa protein) (Fragment).

Table 2.

Z11995	10407	Q99068	10408	AK027025	10409	P30533	10410	86	ALPHA-2- MACROGLOB ULIN RECEPTOR- ASSOCIATED PROTEIN PRECURSOR	AA892810	Z11995cds RN45KDB R.norvegicus mRNA encoding 45kDa protein which binds to heyman antigen gp330	INTRACELL ULAR AND ASSOCIATE D WITH CELL SURFACE RECEPTOR S.	Alpha-2- macroglobulin receptor- associated protein precursor(Alpha- 2-MRAP) (Low density lipoprotein receptor-related protein- associated protein 1) (RAP) (GP330-binding 45 kDa protein) (Fragment).
Z12158	10411	CAA78 146	10412	NIM_0002 84	10413	P08559	10414	95	Pyruvate dehydrogenas e E1 alpha form 1 subunit		Z12158cds RRPDHYE1A R.rattus pyruvate dehydrogenase E1 alpha form 1 subunit		
Z12158	10415	CAA78 146	10416	NIM_0002 84	10417	P08559	10418	95	Pyruvate dehydrogenas e E1 alpha form 1 subunit		Z12158cds RRPDHYE1A R.rattus pyruvate dehydrogenase E1 alpha form 1 subunit		
Z18877	10419	Q05961	10420	D00068	10421	Q96J61	10422	65	R.norvegicus mRNA for 2'5' oligoadenylate synthetase		Z18877 R.norvegicus mRNA for 2 5 oligoadenylate synthetase /cds=(69,1145) /gb=Z18877 /gi=56789 /ug=Rn.10383 /len=1421		2'-5'- oligoadenylate synthetase 1 (EC 2.7.7.-) ((2- 5')oligo(A)synth etase 1) (2-5A synthetase 1).
Z19552	10423	P41516	10424	AK024080	10425	P11388	10426	91.3	Topoisomeras e (DNA) II alpha		Z19552cds RNDNATPII R.norvegicus mRNA for DNA topoisomerase II	Nuclear.	"DNA topoisomerase II, alpha isozyme (EC 5.99.1.3)."
Z29072	10427	CAA82 313	10428	L21998	10429	Q02817	10430	63	Mucin		Z29072cds RNMUCINR R.norvegicus (Sprague Dawley) mRNA for mucin		

Table 2.

Z35654	10431	Q63406	10432	AB002360	10433	O15068	10434	88	R.norvegicus mRNA for Ost oncogene		Z35654 R.norvegicus mRNA for Ost oncogene /cds=(591,3209) /gb=Z35654 /gi=607179 /ug=Rn.10386 /len=4354	Cytoplasmic.	Guanine nucleotide exchange factor DBS (DBL's big sister) (MCF2transforming sequence-like protein) (OST oncogene) (Fragment).
Z35654	10435	Q63406	10436	AB002360	10437	O15068	10438	88	R.norvegicus mRNA for Ost oncogene		Z35654 R.norvegicus mRNA for Ost oncogene /cds=(591,3209) /gb=Z35654 /gi=607179 /ug=Rn.10386 /len=4354	Cytoplasmic.	Guanine nucleotide exchange factor DBS (DBL's big sister) (MCF2transforming sequence-like protein) (OST oncogene) (Fragment).
Z36276	10439	Q64595	10440	X94612	10441	Q13237	10442	88.68	cGMP dependent protein kinase type II		Z36276 R.norvegicus (Sprague-Dawley) GK II mRNA for cGMP dependent protein kinase II /cds=(47,2335) /gb=Z36276 /gi=556668 /ug=Rn.10443 /len=2990		cGMP-dependent protein kinase 2 (EC 2.7.1.37) (CGK 2) (cGKII) (Type IIcGMP-dependent protein kinase).
Z36944	10443	P51794	10444	X77197	10445	P51793	10446	98	Putative chloride channel (similar to Mm Clcn4-2)		Z36944cds RNCHCHANP R.norvegicus mRNA for putative chloride channel	Integral membrane protein.	Chloride channel protein 4 (ClC-4).
Z36980	10447	P80254	10448	NM_001355	10449	P30046	10450	74	D-dopachrome tautomerase.		Z36980 R.norvegicus mRNA for D-dopachrome tautomerase /cds=(76,432) /gb=Z36980 /gi=895881 /ug=Rn.3464 /len=610	Cytoplasmic.	D-dopachrome tautomerase.

Table 2.

Z36980	10451	P80254	10452	NM_001355	10453	P30046	10454	74	D-dopachrome tautomerase.		Z36980 R.norvegicus mRNA for D-dopachrome tautomerase /cds=(76,432) /gb=Z36980 /gi=895881 /ug=Rn.3454 /len=610	Cytoplasmic.	D-dopachrome tautomerase.
Z46614	10455	CAA86587	10456	XM_004967		XP_004967		95	caveolin		Z46614cds RNCAVLN R.norvegicus mRNA for caveolin		
Z46882	10457	CAA86981	10458	NM_001386	10459	Q16555	10460	96	TOAD-64		Z46882cds RRTOAD64 R.rattus mRNA for TOAD-64		
Z48444	10461	CAA88359	10462	AK023460	10463	NP_001101	10464	91.68	disintegrin-metalloprotease		Z48444cds RNDIGMETP R.norvegicus mRNA for disintegrin-metalloprotease		
Z49761	10465	CAA89831	10466	NM_006120	10467	P28067	10468	84.23	RT1.Ma		Z49761 R.norvegicus mRNA for RT1.Ma /cds=(23,805) /gb=Z49761 /gi=1296988 /ug=Rn.11298 /len=1049		
Z50144	10469	NP_058889	10470	NM_016228	10471	NP_057312	10472	85.54	Kynurenine aminotransferase II	NM_017193	Z50144 R.norvegicus mRNA for kynurenine/alpha-aminoacidate aminotransferase /cds=(112,1389) /gb=Z50144 /gi=1050751 /ug=Rn.11133 /len=1807		
Z54212	10473	P54848	10474	NM_001423	10475	P54849	10476	66	Epithelial membrane protein 1	NM_012843	Z54212 R.norvegicus mRNA for epithelial membrane protein-1 /cds=(114,596) /gb=Z54212 /gi=1150558 /ug=Rn.10242 /len=981	Integral membrane protein.	Epithelial membrane protein-1 (EMMP-1) (Tumor-associated membraneprotein).
Z75029	10477	Q07439	10478	M24743	10479	I59139		96	Heat shock protein 70-1		Z75029 R.norvegicus hsp70.2 mRNA for heat shock protein 70 /cds=(0,37) /gb=Z75029 /gi=1483577 /ug=Rn.1950 /len=707		
Z78279	10480	CAB01633	10481	Y15916	10482	P02452	10483	97.6	Collagen alpha1 type I	U75405	Z78279 R.norvegicus mRNA for collagen alpha1 type I /cds=(0,4361) /gb=Z78279 /gi=2894105 /ug=Rn.2953 /len=5721		
Z78279	10484	CAB01633	10485	Y15916	10486	P02452	10487	97.6	Collagen alpha1	M27207	Z78279 R.norvegicus mRNA for collagen alpha1 type I /cds=(0,4361) /gb=Z78279 /gi=2894105 /ug=Rn.2953 /len=5721		
Z78279	10488	CAB01633	10489	Y15916	10490	P02452	10491	97.6	Collagen alpha1 type I		Z78279 R.norvegicus mRNA for collagen alpha1 type I /cds=(0,4361) /gb=Z78279 /gi=2894105 /ug=Rn.2953 /len=5721		

Table 2.

Z83757	10492	P16310	10493	X06562	10494	P10912	10495	89.19	Growth hormone receptor	NM_017094	Z83757mRNA RNHR3UTR R.norvegicus mRNA for growth hormone receptor, 3' UTR	Type I membrane protein.	Growth hormone receptor precursor (GH receptor) (Serum binding protein).
Z83757	10496	P16310	10497	X06562	10498	P10912	10499	89.19	Growth hormone receptor	NM_017094	Z83757mRNA RNHR3UTR R.norvegicus mRNA for growth hormone receptor, 3' UTR	Type I membrane protein.	Growth hormone receptor precursor (GH receptor) (Serum binding protein).
Z96106	10500	CAB09536	10501	XM_004743		XP_004743		92	potassium channel r-ERG		Z96106 Rattus norvegicus mRNA for potassium channel r-ERG /cds=(0,3491) /gb=Z96106 /gi=2190504 /ug=Rn.10970 /len=3889		
AB000280	10502	g2208839	10503	S78203	10504	Q16348	10505	23	Peptide/histidine transporter, complete cds		AB000280 Rat mRNA for peptide/histidine transporter, complete cds /cds=(23,1741) /gb=AB000280 /gi=2208838 /ug=Rn.10770 /len=2730		
AB002406	10506	JC5521	10507	Y17829	10508	JE0334	10509	94.46	RuvB-like protein 1		AB002406 Rat mRNA for TIP49, complete cds /cds=(30,1400) /gb=AB002406 /gi=2225876 /ug=Rn.11023 /len=1587		
AB009999	10510	O35052	10511	U65887	10512	Q92903	10513	86.11	CDP-diacylglycerol synthase, (18 on d.s.)		AB009999 Rattus norvegicus mRNA for CDP-diacylglycerol synthase, complete cds	Integral membrane protein . CYTOPLASMIC ASPECT OF THE ENDOPLASMIC RETICULUM	Phosphatidate cytidylyltransferase 1 (EC 2.7.7.41) (CDP-diacylglycerol synthase 1) (CDP-diacylglycerol synthase 1) (CDS 1) (CTP:phosphatidate cytidylyltransferase 1)

Table 2.

AB0101 54	10514	BAA363 62	10515	AF387637	10516	P27448	10517	31	Sbk mRNA for serine/threonine kinase with SH3 ligand, expressed in hippocampus		AB010154 Rattus norvegicus PKN mRNA for serin/threonine protein kinase expressed in hippocampus, partial cds		
AB0134 54	10518	P24049	10519	X53777	10520	P18621	10521	99	ASI mRNA for mammalian equivalent of bacterial large ribosomal subunit protein L22		AB013454 Rattus norvegicus mRNA for NaPi 2 beta, complete cds		60S ribosomal protein L17 (L23) (Amino acid starvation- induced protein) (ASI).
AB0137 32	10522	O70199	10523	AJ007702	10524	O60701	10525	89.76	UDP-glucose dehydrogenase		AB013732 Rattus norvegicus mRNA for UDP- glucose dehydrogenase, complete cds /cds=(110,1591) /gb=AB013732 /gi=3133256 /ug=Rn.3967 /len=2318		UDP-glucose 6- dehydrogenase (EC 1.1.1.22) (UDP-Glc dehydrogenase) (UDP-GlcDH) (UDPGDH).
NIM_02 2505	10526	NP_071 950	10527	S82449	10528	Q9UQ21	10529	86.21	Rhesus blood group	AB015191	AB015191 Rattus norvegicus mRNA for Rh blood group protein, complete cds		

Table 2.

AB016160	10530	Q9Z0U4	10531	AJ225028	10532	Q9UBS5	10533	97	Gamma-aminobutyric acid (GABA) B receptor, 1		AB016160 Rattus norvegicus mRNA for GABAB receptor 1c, complete cds	INTEGRAL MEMBRANE PROTEIN. MOREOVER COEXPRESSION OF GABA-B-R1 AND GABA-B-R2 APPEARS TO BE A PREREQUISITE FOR MATURATION AND TRANSPORT OF GABA-B-R1 TO THE PLASMA MEMBRANE.	Gamma-aminobutyric acid type B receptor, subunit 1 precursor (GABA-Breceptor 1) (GABA-B-R1) (Gb1).
AF000942	10534	P41138	10535	X66924	10536	Q02535	10537	88.38	Inhibitor of DNA binding 3, dominant negative helix-loop-helix protein		AF000942 Rattus norvegicus Id3a mRNA, complete cds	Nuclear.	DNA-binding protein inhibitor ID-3.
AF004811	10538	P31977	10539	M69066	10540	P26038	10541	91.07	Moesin		AF004811 Rattus norvegicus moesin mRNA, complete cds /cds=(98,1831) /gb=AF004811 /gi=2218138 /ug=Rn.10773 /len=2099		
AF007554	10542	g2253444		X52228	10543	Q16615	10544	87.68	Mucin1		AF007554 Rattus norvegicus mucin 1 (Muc1) mRNA, partial cds /cds=(0,224) /gb=AF007554 /gi=2253443 /ug=Rn.10779 /len=447		
AF007583	10545	O35167	10546	NM_080539	10547	Q9NP24	10548	90.29	Collagen-like tail subunit (single strand of homotrimer) of asymmetric acetylcholines terase		AF007583 Rattus norvegicus acetylcholinesterase-associated collagen (COLQ) mRNA, complete cds /cds=(45,1421) /gb=AF007583 /gi=2564193 /ug=Rn.10841 /len=2731		Acetylcholinesterase collagenic tail peptide precursor (AChE Qsubunit) (Acetylcholinesterase-associated collagen).

Table 2.

AF020618	10549	AAC24980	10550	XM_009097	10551	XP_009097	10552	34	Progression elevated gene 3 protein		AF020618 Rattus norvegicus progression elevated gene 3 protein mRNA, complete cds		
AF026529	10553	O35414	10554	AJ303455	10555	Q9H169	10556	95.19	Stathmin-like-protein RB3		AF026529 Rattus norvegicus stathmin-like-protein splice variant RB3 mRNA, complete cds /cds=(120,650) /gb=AF026529 /gi=2585992 /ug=Rn.5658 /len=1305		Stathmin 4 (Stathmin-like protein B3) (RB3).
AF028784	10557	I56572		J04569	10558	P14136	10559	88	Glial fibrillary acidic protein		AF028784mRNA#1 Rattus norvegicus glial fibrillary acidic protein alpha (GFAP) gene, alternative spliced form, complete cds; and glial fibrillary acidic protein delta (GFAP) gene, alternative spliced form, partial cds		
AF029240	10560	g3150054		M20022	10561	P29401	10562	62	MHC class Ib RT1.S3 (RT1.S3) (21 on d.s.)		AF029240 Rattus norvegicus MHC class Ib RT1.S3 (RT1.S3) gene, complete cds /cds=(0,1091) /gb=AF029240 /gi=3150053 /ug=Rn.14674 /len=2653		
AF034237	10563	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST also named DD6A4 1 mRNA		AF034237 Rattus norvegicus DD6A4-1 mRNA, partial sequence		
AF034899	10564	JC5836	10565	L35475	10566	Q15062	10567	44	Olfactory receptor-like protein (SCR D-9)		AF034899 Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds /cds=(0,965) /gb=AF034899 /gi=3153224 /ug=Rn.14522 /len=1086		
AF035156	10568	O54939	10569	U05659	10570	P37058	10571	81.94	Testicular 17-beta-hydroxysteroid dehydrogenase		AF035156 Rattus norvegicus testicular 17-beta-hydroxysteroid dehydrogenase mRNA, complete cds /cds=(21,941) /gb=AF035156 /gi=2826748 /ug=Rn.10895 /len=1111		Estradiol 17-beta-dehydrogenase 3 (EC 1.1.1.62) (17-beta-HSD 3)(Testicular 17-beta-hydroxysteroid dehydrogenase)
AF039085	10572	O54980	10573	AJ002308	10574	O43760	10575	87	Synaptogyrin 2		AF039085 Rattus norvegicus cellugyrin mRNA, complete cds /cds=(153,857) /gb=AF039085 /gi=2773063 /ug=Rn.8682 /len=1108	Integral membrane protein.	Synaptogyrin 2 (Cellugyrin).

Table 2.

NM_0082	10576	O55004	10577	BI460032	10578	NP_002928	10579	87.13	Ribonuclease 4	AF041066	AF041066 Rattus norvegicus ribonuclease 4 mRNA, complete cds /cds=(76,519) /gb=AF041066 /gi=2773352 /ug=Rn.22804 /len=546	Secreted.	Ribonuclease 4 precursor (EC 3.1.27.-) (RNase 4) (RL3).
AF121217	10580	P02486	10581	D21235	10582	P54725	10583	95.37	Procollagen, type I, alpha 2	AF050214	AF050214 Rattus norvegicus type I pro-alpha 2 collagen-like mRNA sequence		Collagen alpha 2(I) chain precursor.
AF050659	10584	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Activity and neurotransmitter-induced early gene 7 (ania-7)		AF050659UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 7 (ania-7) mRNA, 3 UTR		
AF050663	10585	No Rat Protein Found.		AC009812	10586	No Human Protein Found.		86	Activity and neurotransmitter-induced early gene 11 (ania-11)		AF050663UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 11 (ania-11) mRNA, 3 UTR		
AF053312	10587	P97884	10588	U64197	10589	P78556	10590	85.29	Small inducible cytokine subfamily A20		AF053312 Rattus norvegicus CC chemokine ST38 precursor, mRNA, complete cds	Secreted.	Small inducible cytokine A20 precursor (CCL20) (Macrophageinflammatory protein 3 alpha) (MIP-3-alpha) (Liver and activation-regulated chemokine) (CC chemokine) (LARC) (Beta chemokine exodus-1) (CCchemok
AF058791	10591	AAC14190	10592	AB014532	10593	P41223	10594	87.13	Maternal G10 transcript		AF058791 Rattus norvegicus G10 protein homolog (edg2) mRNA, complete cds /cds=(184,618) /gb=AF058791 /gi=3064069 /ug=Rn.8172 /len=816		

Table 2.

AF061242	10595	Q9R1B1	10596	AI005112	10597	Q9Y5J6	10598	96.34	Fracture callus 1		AF061242 Rattus norvegicus fracture callus 1 (FxC1) mRNA, complete cds	Mitochondrial inner membrane	Mitochondrial import inner membrane translocase subunit TIM9 B(Fracture callus protein 1) (FxC1).
AF077354	10599	Q63617	10600	BC002526	10601	P34932	10602	93.17	Ischemia responsive 94 kDa protein (irp94)		AF077354 Rattus norvegicus ischemia responsive 94 kDa protein (irp94) mRNA, complete cds		
AF080568	10603	P19836	10604	D84307	10605	Q99447	10606	88.6	Phosphate cytidyltransferase 2, ethanolamine		AF080568 Rattus norvegicus CTP:phosphoethanolamine cytidyltransferase mRNA, complete cds		
AF083269	10607	O88656	10608	AI768321	10609	O15143	10610	92.74	Actin-related protein complex 1b (14 on d.s.)		AF083269 Rattus norvegicus p41-Arc mRNA, complete cds		ARP2/3 complex 41 kDa subunit (P41-ARC) (Actin-related protein 2/3complex subunit 1B).
AF032120	10611	Q9Z254	10612	AF028824	10613	O14908	10614	87.98	Regulator of G protein signaling 19	AF089817	AF089817 Rattus norvegicus RGS-GAIP interacting protein GIPC mRNA, complete cds	CYTODAS MIC AND MEMBRANE ASSOCIATED	GAIP C-terminus interacting protein GIPC (RGS-GAIP interacting protein) (GLUT1 C-terminal binding protein) (GLUT1CBP).
AF091561	10615	AAC64584	10616	AF321237	10617	AAG45206	10618	33	hP3 olfactory receptor		AF091561 Rattus norvegicus isolate AIV-LY1 olfactory receptor mRNA, partial cds		
AF095576	10619	AAC64408	10620	AB000520	10621	BAA22514	10622	85.26	APS protein		AF095576 Rattus norvegicus APS protein mRNA, complete cds		
NM_021852	10623	NP_068624	10624	AF062085	10625	AAC78608	10626	90.79	EH domain binding protein epsin 2	AF096269	AF096269 Rattus norvegicus EH domain binding protein epsin 2 mRNA, complete cds		

Table 2.

NM_02 1686	10627	NP_067 718	10628	AF418270	10629	NP_055 742	10630	94.34	Membrane-associated guanylate kinase- interacting protein	AF102853	AF102853 Rattus norvegicus membrane-associated guanylate kinase-interacting protein 1 Maguin-1 mRNA, complete cds		
AJ0010 44	10631	g27645 85	10632	M33011	10633	P16422	10634	80.22	Protein phosphatase 1, regulatory (inhibitor) subunit 5		AJ001044cds RNEGP314H Rattus norvegicus mRNA for EGP-314 protein homologue		
AJ0048 58	10635	S19597	10636	X73039	10637	S34118	10638	88	SRY-box containing gene 11		AJ004858 RNAJ4858 Rattus norvegicus mRNA for Sry-related HMG-box protein Sox11		
AJ0051 13	10639	S06006	10640	D80000	10641	I54383		92.03	SMC (segregation of mitotic chromosomes 1)-like 1 (yeast)		AJ005113 RNAJ5113 Rattus norvegicus mRNA for SMC-protein Molecular characterization of a rat heterochromatin associated SMC-protein		
AJ0118 11	10642	Q9Z1L1	10643	AJ011497	10644	O95471	10645	93	Claudin 7		AJ011811 RNO011832 Rattus norvegicus mRNA for claudin-9, clone RPCCB40, partial	Integral membrane protein.	Claudin-7 (Fragment).
AJ1319 02	10646	O55148	10647	AK057761	10648	O60861	10649	92.86	Growth arrest specific 7		AJ131902 RNO131902 Rattus norvegicus mRNA for GAS-7 protein	Cytoplasmic	Growth-arrest- specific protein 7 (GAS-7).
AJ2233 55	10650	211623 2A	10651	BC015797	10652	Q9UBX3	10653	86.37	Rattus norvegicus mRNA for mitochondrial dicarboxylate carrier (43 on d.s.)		AJ223355 RNAJ3355 Rattus norvegicus mRNA for mitochondrial dicarboxylate carrier		
D00688	10654	BAA005 92	10655	NM_0002 40	10656	P21397	10657	82	Monoamine oxidase A		D00688 RATMAOA Rat monoamine oxidase A gene, complete cds		
D10392	10658	P32851	10659	BC003011	10660	Q16623	10661	92.7	Syntaxin A		D10392 Rat mRNA for HPC-1 antigen, C-terminal /cds=(0, 897) /gb=D10392 /gi=220776 /ug=Rn.9943 /len=2130	Membrane- bound.	Syntaxin 1A (Synaptotagmin associated 35 kDa protein) (P35A)(Neuron- specific antigen HPC-1).

Table 2.

D10587	10662	BAA0144	10663	D12676	10664	Q14108	10665	82	85kDa sialoglycoprotein (LGP85)		D10587 RATLGP85 Rattus sp. mRNA for 85kDa sialoglycoprotein (LGP85), complete cds		
D10729	10666	BAA01572	10667	XM_016879		XP_016879		93	Proteasome subunit RC1		D10729 RATPSRC1 Rat mRNA for proteasome subunit RC1		
D10853	10668	P35433	10669	AA826427	10670	Q06203	10671	91.26	Amidophosphoribosyltransferase		D10853 RATATR Rat mRNA for amidophosphoribosyltransferase		Amidophosphoribosyltransferase precursor (EC 2.4.2.14) (Glutaminephosphoribosylpyrophosphate amidotransferase) (ATASE) (GPAT).
D12769	10672	Q01713	10673	NM_001206	10674	Q13886	10675	91	BTE binding protein		D12769 RATBTEB Rattus norvegicus mRNA for BTE binding protein	Nuclear.	Transcription factor BTEB1 (Basic transcription element binding protein 1) (BTE-binding protein 1) (GC box binding protein 1).
D13962	10676	Q07647	10677	M20681	10678	P11169	10679	83	Solute carrier family 2 A3 (neuron glucose transporter)		D13962 RATGLUT3 Rat mRNA for neuron glucose transporter	Integral membrane protein.	Solute carrier family 2, facilitated glucose transporter, member 3 (Glucose transporter type 3, brain).

Table 2.

D14441	10680	Q05175	10681	AF039656	10682	P80723	10683	72	Brain acidic membrane protein			D14441 RATNAP22 Rat NAP-22 mRNA for acidic membrane protein of rat brain, complete cds	MEMBRANE ANCHORED. ASSOCIATED WITH THE MEMBRANE OF "GROWTH CONES" THAT FORM THE TIPS OF ELONGATING AXONS.	Brain acid soluble protein 1 (BASP1 protein) (Neuronal axonal membrane protein NAP-22).
NM_022860	10684	Q10468	10685	M83651	10686	Q00973	10687	87.83	Beta-4N-acetylgalactosaminyltransferase	D17809	D17809 Rat mRNA for beta-4N-acetylgalactosaminyltransferase, complete cds /cds=(30,1631) /gb=D17809 /gi=497841 /ug=Rn.10119 /len=2166	Type II membrane protein. Golgi.	Beta-1,4 N-acetylgalactosaminyltransferase (EC 2.4.1.92) ((N-acetylneuraminylo)-galactosylglucosylceramide) (GM2/GD2 synthase)(GalNAc-T).	
D26564	10688	Q63692	10689	NM_016742	10690	Q61081	10691	84	Rattus norvegicus mRNA, similar to cdc37		D26564 RATCDS37 Rattus norvegicus mRNA, complete cds, similar to cdc37	Cytoplasmic.	Hsp90 co-chaperone Cdc37 (Hsp90 chaperone protein kinase-targeting subunit) (p50Cdc37).	
D29646	10692	Q64244	10693	M34461	10694	P28907	10695	83.33	CD38 antigen (ADP-ribosyl cyclase / cyclic ADP-ribose hydrolase)		D29646 Rat mRNA for ADP-ribosyl cyclase / cyclic ADP-ribose hydrolase (CD38), complete cds /cds=(10,921) /gb=D29646 /gi=497839 /ug=Rn.11414 /len=2248	Type II membrane protein.	ADP-ribosyl cyclase 1 (EC 3.2.2.5) (Cyclic ADP-ribose hydrolase 1)(cADPr hydrolase 1) (CD38 homolog) (CD38H).	

Table 2.

D29766	10696	Q63767	10697	AJ242987	10698	P56945	10699	91	V-ckr-associated tyrosine kinase substrate		D29766Poly_ASite#1 RATP130CAS Rattus norvegicus mRNA for Crk-associated substrate, p130, complete cds	FOCAL ADHESIONS AND STRESS FIBERS. UNPHOSPHORYLATED FORM LOCALIZES IN THE CYTOPLASM AND CAN MOVE TO THE MEMBRANE UPON TYROSINE PHOSPHORYLATION.	CRK-associated substrate (P130CAS) (Breast cancer anti-estrogen resistance 1 protein).
D31874	10700	P53670	10701	BC013051	10702	P53671	10703	91.03	LIM motif-containing protein kinase 2		D31874 Rat mRNA for LIMK-2a, complete cds /cds=(62,1978) /gb=D31874 /gi=1684612 /ug=Rn.11013 /len=3455	Cytoplasmic.	LIM domain kinase 2 (EC 2.7.1.-) (LIMK-2).
D37880	10704	P55146	10705	U02566	10706	Q06418	10707	88.67	Bruton agammaglobulinemia tyrosine kinase (32 on d.s.)		D37880 Rat mRNA for Sky, complete cds /cds=(25,2667) /gb=D37880 /gi=1498195 /ug=Rn.8883 /len=3726	Type I membrane protein.	Tyrosine-protein kinase receptor TYRO3 precursor (EC 2.7.1.112)(Tyrosine-protein kinase SKY).
D38222	10708	g10548 ₃₅	10709	L18983	10710	Q16849	10711	86	Tyrosine phosphatase-like protein IA-2a		D38222 RATPDPTLP Rat mRNA for protein tyrosine phosphatase-like protein, complete cds		
D38380	10712	P12346	10713	M12530	10714	P02787	10715	68	Transferrin		D38380 RATTATTA Rattus norvegicus mRNA for transferrin, complete cds	Secreted.	Serotransferrin precursor (Transferrin) (Siderophilin) (Beta-1-metabinding globulin).

Table 2.

D38468	10716	S06084	10717	D86043	10718	JC5287	10719	66	Protein tyrosine phosphatase, non-receptor type substrate 1 (SHP substrate 1)		D38468 Rattus norvegicus mRNA for BIT, complete cds /cds=(288,1817) /gb=D38468 /gi=2190165 /ug=Rn.22662 /len=2355		
D45249	10720	BAA08206	10721	NM_006263	10722	Q06323	10723	85	Proteasome activator rPA28 subunit alpha		D45249 RATPRPA28B Rat mRNA for proteasome activator rPA28 subunit alpha, complete cds		
D49363	10724	BAA08359	10725	AY026764	10726	AAK01939	10727	87	perchloric acid soluble protein		D49363 RATPSP1 Rat mRNA for perchloric acid soluble protein, complete cds		
D49847	10728	P29354	10729	BC000631	10730	P29354	10731	93.36	Rat mRNA for Ash-s		D49847 Rat mRNA for Ash-s, complete cds /cds=(144,323) /gb=D49847 /gi=914960 /ug=Rn.3360 /len=1739		Growth factor receptor-bound protein 2 (GRB2 adapter protein)(SH2/SH 3 adapter GRB2) (ASH protein).
D50558	10732	BAA23470	10733	U04343	10734	P42081	10735	82.52	Membrane glycoprotein		D50558 Rattus rattus mRNA for membrane glycoprotein, complete cds		
D63665	10736	Q63371	10737	X97058	10738	Q15077	10739	84.8	Novel G protein-coupled P2 receptor		D63665 Rat mRNA for novel G protein-coupled P2 receptor, complete cds /cds=(439,1425) /gb=D63665 /gi=1066007 /ug=Rn.10671 /len=1922	Integral membrane protein.	P2Y purinoceptor 6 (P2Y6).
D63886	10740	BAA22223	10741	NM_005941	10742	P51512	10743	90	MT3-MMP-del		D63886 Rattus sp. mRNA for MT3-MMP-del, complete cds		
D78613	10744	BAA11433	10745	XM_005781		XP_005781		80	Protein tyrosine phosphatase epsilon M		D78613 RATPTPEB Rat mRNA for protein tyrosine phosphatase epsilon M, partial cds		
D82074	10746	BAA11535	10747	XM_002573	10748	XP_002573	10749	85	BHF-1 (12 on d.s.)		D82074 RATBHF1MA Rattus sp. mRNA for BHF-1, complete cds		

Table 2.

D83948	10750	P70501	10751	AK000962	10752	g1469167	10753	93.27	S1-1 protein from liver		D83948 mRNA Rat adult liver mRNA for S1-1 protein, complete cds /cds=UNKNOWN /gb=D83948 /gi=1865639 /ug=Rn.8822 /len=3123	Nuclear.	RNA-binding protein 10 (RNA binding motif protein 10) (S1-1 protein).
D85189	10754	O35547	10755	NM_022977	10756	O60488	10757	91.08	Acyl-CoA synthetase (36 on d.s.)		D85189 Rattus norvegicus mRNA for Acyl-CoA synthetase, complete cds /cds=(185,2197) /gb=D85189 /gi=2392022 /ug=Rn.2366 /len=4862		Long-chain-fatty-acid-CoA ligase 4 (EC 6.2.1.3) (Long-chain acyl-CoA synthetase 4) (LACS 4).
D86557	10758	BAA19880	10759	NM_020439	10760	NP_065172	10761	98	Protein Kinase		D86557 Rattus norvegicus mRNA for Protein Kinase, partial cds		
D87240	10762	O35096	10763	AJ295747	10764	Q16875	10765	94.86	RB2K1 mRNA for fructose-6-phosphate 2-kinase/fructose-2,6-bisphosphatase		D87240 Rattus norvegicus RB2K1 mRNA for fructose-6-phosphate 2-kinase/fructose-2,6-bisphosphatase, complete cds /cds=(405,2072) /gb=D87240 /gi=2317651 /ug=Rn.10791 /len=2148		6-phosphofructose-2-kinase/fructose-2,6-bisphosphatase 3 (6PF-2-K/Fru-2,6-P2ASE brain-type isozyme) (RB2K) [Includes: 6-phosphofructose-2-kinase (EC 2.7.1.105); Fructose-2,6-bisphosphatase (EC 3.1.3.46)].
D87515	10766	O09175	10767	AL390139	10768	Q9H4A4	10769	92.44	Aminopeptidase B		D87515 Rat mRNA for aminopeptidase-B, complete cds /cds=(5,1954) /gb=D87515 /gi=1754514 /ug=Rn.10979 /len=2192	Secreted.	Aminopeptidase B (EC 3.4.11.6) (Ap-B) (Arginyl aminopeptidase) (Arginine aminopeptidase) (Cytosol aminopeptidase IV).

Table 2.

D88250	10770	JC6554	10771	J04080	10772	Q9JUCV3	10773	76	Serine protease		D88250 Rattus norvegicus mRNA for serine protease, complete cds /cds=(246,2330) /gb=D88250 /gi=3080541 /ug=Rn.4037 /len=2908		
D88672	10774	P70498	10775	AF038441	10776	O14939	10777	88.04	Phospholipase D		D88672 Rat mRNA for phospholipase D, complete cds /cds=(336,3137) /gb=D88672 /gi=2077942 /ug=Rn.9798 /len=4562	Membrane-associated .	Phospholipase D2 (EC 3.1.4.4) (PLD 2) (Choline phosphatase 2)(Phosphatidyl choline-hydrolyzing phospholipase D2) (PLD1C) (rPLD2).
D89340	10778	O55096	10779	AK021449	10780	Q9NY33	10781	89.98	Dipeptidyl peptidase III		D89340 Rattus norvegicus mRNA for dipeptidyl peptidase, complete cds /cds=(14,2497) /gb=D89340 /gi=2832905 /ug=Rn.10902 /len=2615	Cytoplasmic.	Dipeptidyl-peptidase III (EC 3.4.14.4) (DPP III) (Dipeptidylaminopeptidase II) (Dipeptidyl arylamidase III).
D90404	10782	P80067	10783	AA296068	10784	S66504		96.07	Cathepsin C (dipeptidyl peptidase I)		D90404 RATCATC Rat mRNA for cathepsin C	Lysosomal.	Dipeptidyl-peptidase I precursor (EC 3.4.14.1) (DPP-I) (DPPI)(Cathepsin C) (Cathepsin J) (Dipeptidyl transferase).
E00444	10785	No Rat Protein Found.		J03909	10786	P13284	10787	72	ESTs, Moderately similar to GILT (GAMMA-INTERFERON INDUCIBLE PROTEIN IP-30) [H.sapiens]		E00444cds DNA coding for gamma-interferon		

Table 2.

E01789	10788	CAA28035	10789	10789	M13975	10790	Q9JUE49	10791	93	Protein kinase C beta-II type		E01789cds cDNA sequence coding for rat C-kinase type-II (beta-2)		
E13732	10792	NP_065417	10793	10793	XM_030395		XP_030395		80	CC chemokine receptor protein		E13732cds cDNA encoding rat CC chemokine receptor protein		
J00735	10794	NP_036691	10795	10795	NM_021870	10796	P02679	10797	76	fibrinogen gamma chain-b		J00735 RATFBRGB rat fibrinogen gamma chain-b mma		
J02612	10798	P08430	10799	10799	AV683870	10800	P22310	10801	88.71	UDP-glucuronosyltransferase 1 family, member 1	Microsomal.	J02612mRNA RATUDPGT Rat UDP-glucuronosyltransferase mRNA, complete cds	UDP-glucuronosyltransferase 1-6 precursor, microsomal (EC 2.4.1.17)(UDPGT) (UGT1*6) (UGT1-06) (UGT1.6) (UGT1A6) (A1) (P-nitrophenolspecific).	
NM_017000	10802	P05982	10803	10803	NM_000903	10804	P15559	10805	81	Diaphorase (NADH/NADPH)	J02679	J02679 Rat NAD(P)H-menadiione oxidoreductase mRNA, complete cds /cds=(74,898) /gb=J02679 /gi=205741 /ug=Rn.11234 /len=1501	Cytoplasmic.	NAD(P)H dehydrogenase [quinone] 1 (EC 1.6.99.2) (Quinone reductase 1)(QR1) (DT-diaphorase) (DTD) (Azoreductase) (Phylloquinone reductase)(Menadiione reductase).

Table 2.

J02749	10806	P21775	10807	X12966	10808	P09110	10809	86	Acetyl-CoA acyltransferase, 3-oxo acyl- CoA thiolase A, peroxisomal		J02749 Rat peroxisomal 3-ketoacyl-CoA thiolase mRNA, complete cds /cds=(25,1299) /gb=J02749 /gi=205096 /ug=Rn.8913 /len=1580	Peroxisomal.	3-ketoacyl-CoA thiolase A, peroxisomal precursor (EC 2.3.1.16) (Beta- ketothiolase A) (Acetyl-CoA acyltransferase A) (Peroxisomal 3-oxoacyl-CoA thiolase A).
J03624	10810	P10683	10811	M77140	10812	P22466	10813	90.2	Galanin		J03624 Rat galanin (a neuropeptide) mRNA, complete cds /cds=(144,518) /gb=J03624 /gi=204236 /ug=Rn.8929 /len=699	Secreted.	Galanin precursor [Contains: Galanin; Galanin message- associatedpepti de (GMAP)].
J04187	10814	P15149	10815	U22028	10816	Q16696	10817	67	Cytochrome P450 IIA2 (see 257 on this sheet)		J04187 Rat cytochrome P450 IIA2 protein (CYP2A2) mRNA, complete cds /cds=(9,1487) /gb=J04187 /gi=204901 /ug=Rn.9867 /len=2259	Membrane- bound. Endoplasmic reticulum.	Cytochrome P450 2A2 (EC 1.14.14.1) (CYP1A2) (Testosterone 15-alpha- hydroxylase) (P450-UT-4).
J05022	10818	P20717	10819	BC009701	10820	Q9Y2J8	10821	88.67	Peptidyl arginine deiminase, type II		J05022 Rat peptidylarginine deiminase mRNA /cds=(60,2057) /gb=J05022 /gi=205959 /ug=Rn.2642 /len=4507		Protein-arginine deiminase type II (EC 3.5.3.15) (Peptidylarginin edeiminase II).

Table 2.

NM_012515	10822	P16257	10823	XM_040167	XP_040167	79	Benzodiazepine receptor (peripheral)	J05122	J05122 Rat peripheral-type benzodiazepine receptor (PKBS) mRNA, complete cds /cds=(34,543) /gb=J05122 /gi=206161 /ug=Rn.1820 /len=781	MITOCHONDRIAL INTEGRAL MEMBRANE PROTEIN.	Peripheral-type benzodiazepine receptor (PBR) (PKBS) (Mitochondrial benzodiazepine receptor).
J05210	10824	P16638	10825	X64330	10826	10827	ATP citrate lyase (17 on d.s.)		J05210 Rat ATP citrate-lyase mRNA, complete cds /cds=(72,3374) /gb=J05210 /gi=949989 /ug=Rn.996 /len=4269	Cytoplasmic.	ATP-citrate (pro-S)-lyase (EC 4.1.3.8) (Citrate cleavage enzyme).
J05499	10828	P28492	10829	AK000467	10830	10831	L-glutamine amidohydrolase		J05499 Rattus norvegicus L-glutamine amidohydrolase mRNA, complete cds /cds=(131,1738) /gb=J05499 /gi=1196813 /ug=Rn.10202 /len=2225	Mitochondrial	Glutaminase, liver isoform, mitochondrial precursor (EC 3.5.1.2) (GLS) (L-glutamine amidohydrolase) (L-glutaminase).
NM_0075	10832	Q07205	10833	NM_001969	10834	10835	Eukaryotic initiation factor 5 (eIF-5) (37 on d.s.)	K01677	K01677 Rat brain-specific identifier sequence (ID) clone p1B337 /cds=UNKNOWN /gb=K01677 /gi=206764 /ug=Rn.3506 /len=1000		Eukaryotic translation initiation factor 5 (eIF-5).
K02815	10836	S04363		M17847	10837	10838	RT1.B-1(alpha) chain of integral membrane protein		K02815 Rat MHC RT1-B region class II (la antigen) A-alpha glycoprotein mRNA (haplotype Rt1-u) /cds=(0,390) /gb=K02815 /gi=205407 /ug=Rn.6100 /len=681		
L00111	10839	761799A		X15943	10840	10841	Calcitonin		L00111 unknownS536 Rat calcitonin gene /cds=(9,395) /gb=L00111 /gi=457369 /ug=Rn.10335 /len=420		
L02896	10842	P35053	10843	X54232	10844	10845	Glypican 1		L02896 Rattus norvegicus major heparan sulfate proteoglycan (glypican) mRNA, complete cds /cds=(221,1897) /gb=L02896 /gi=204424 /ug=Rn.7044 /len=3497	Attached to the membrane by a GPI-anchor.	Glypican-1 precursor (HSPG M12).

Table 2.

L03201	10846	Q02765	10847	M90696	10848	P25774	10849	76	Cathepsin S		L03201 Rattus norvegicus cathepsin S mRNA, complete cds /cds=(27,1019) /gb=L03201 /gi=203649 /ug=Rn.11347 /len=1330	Lysosomal.	Cathepsin S precursor (EC 3.4.22.27).
L07925	10850	Q03386	10851	AB037729	10852	Q12967	10853	90.5	Ral guanine nucleotide dissociation stimulator		L07925 RATGNSA Rattus rattus guanine nucleotide dissociation stimulator for a ras-related GTPase mRNA, complete cds		Ral guanine nucleotide dissociation stimulator (RalGEF) (RaIGDS).
L10336	10854	Q08326	10855	S78873	10856	P47224	10857	100	ESTs, Highly similar to MSS4 GUANINE NUCLEOTIDE EXCHANGE FACTOR MSS4 [R.norvegicus]		L10336 Rattus rattus guanine nucleotide-releasing protein (mss4) mRNA, complete cds /cds=(723,1094) /gb=L10336 /gi=204449 /ug=Rn.11302 /len=2490		
L12025	10858	AAB807 67	10859	M24407	10860	P15151	10861	80.17	Tumor-associated glycoprotein pE4 - human poliovirus receptor.		L12025 Rattus norvegicus tumor-associated glycoprotein E4 (Tage4) mRNA, complete cds /cds=(65,1303) /gb=L12025 /gi=2506084 /ug=Rn.10677 /len=2171		
L12382	10862	P16587	10863	M33384	10864	P16587	10865	100	ADP-ribosylation factor 3		L12382 Rattus norvegicus ADP-ribosylation factor 3 mRNA, complete cds /cds=(186,731) /gb=L12382 /gi=438865 /ug=Rn.9784 /len=826		ADP-ribosylation factor 3.
L12384	10866	P26437	10867	BI837414	10868	P26437	10869	95.06	ADP-ribosylation factor 5		L12384 Rattus norvegicus ADP-ribosylation factor 5 mRNA, complete cds /cds=(94,636) /gb=L12384 /gi=438869 /ug=Rn.10974 /len=1058		ADP-ribosylation factor 5.
L14680	10870	I53744	10871	M13995	10872	P10415	10873	93.55	B cell lymphoma 2 associated oncogene		L14680 Rattus norvegicus bcl-2 mRNA, complete cds /cds=(234,944) /gb=L14680 /gi=408946 /ug=Rn.9996 /len=1179		
L17318	10874	B48013	10875	No human homolog found.		P24928	10876	36	Proline-rich proteoglycan (PRPG2)		L17318 Rattus norvegicus proline-rich proteoglycan (PRPG2) mRNA, complete cds /cds=(21,908) /gb=L17318 /gi=310199 /ug=Rn.9870 /len=1011		

Table 2.

L19112	10877	g31014 9		U11814	10878	P21802	10879	97.74	Rat (clone R2(A3B)) heparin-binding fibroblast growth factor receptor 2 (extracellular domain) mRNA, partial cds		L19112 Rat (clone R2(B3C)) heparin-binding fibroblast growth factor receptor 2 (extracellular domain) mRNA, partial cds /cds=(0,1061) /gb=L19112 /gi=310150 /ug=Rn.12732 /len=1062			
NM_031834	10880	P17988	10881	XM_051063		XP_051063		73	Minoxidil sulfotransferase	L19998	L19998 Rat minoxidil sulfotransferase mRNA, complete cds /cds=(77,952) /gb=L19998 /gi=310178 /ug=Rn.1507 /len=1227	Cytoplasmic.	Aryl sulfotransferase (EC 2.8.2.1) (Phenol sulfotransferase) (PST-1)(Sulfokinase) (Aryl sulfotransferase IV) (ASTIV) (Tyrosine-estersulfotransferase) (Minoxidil sulfotransferase).	
L21192	10882	A26964	10883	S66541	10884	I52638		84	Growth accentuating protein 43		L21192 Rat GAP-43 gene /cds=(56,736) /gb=L21192 /gi=310121 /ug=Rn.10928 /len=1325			
L23148	10885	P41135	10886	AA689598	10887	JC5396		91.74	Inhibitor of DNA binding 1, helix-loop-helix protein (splice variation)		L23148 Rattus norvegicus inhibitor of DNA-binding, splice variant Id1.25, complete cds /cds=(61,555) /gb=L23148 /gi=516116 /ug=Rn.2113 /len=1124	Nuclear.	DNA-binding protein inhibitor ID-1.	
AF390546	10888	AAK73355	10889	AF105036	10890	O43474	10891	90	Rattus norvegicus (clone 180) FSH-regulated protein mRNA	L26292	L26292 RATFSHREG Rattus norvegicus (clone 59) FSH-regulated protein mRNA			

Table 2.

NM_031579	10892	NP_113767	10893	U48296	10894	XP_034503	10895	95.4	Protein tyrosine phosphatase 4a1	L27843	L27843 RATPRL1NP Rat tyrosine phosphatase (PRL-1) mRNA, complete cds		
L29281	10896	S50216	10897	M35663	10898	P19525	10899	62	Protein kinase, interferon-inducible double stranded RNA dependent		L29281 Rattus norvegicus initiation factor-2 kinase (eIF-2a) mRNA, complete cds /cds=(150,1691) /gb=L29281 /gi=468372 /ug=Rn.10022 /len=3808		
L29573	10900	I59558		M65105	10901	P23975	10902	88	Solute carrier family 6 (neurotransmitter transporter, noradrenalin), member 2		L29573 RATNOREPIN Rat NaCl-dependent norepinephrine transporter mRNA, partial cds		
L32591	10903	P48317	10904	M60974	10905	P24522	10906	95	Gadd45 (3, 44 on d.s.)		L32591mRNA RATGADD45X Rattus norvegicus GADD45 mRNA, complete cds		Growth arrest and DNA-damage-inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).
L34821	10907	P51650	10908	L34820	10909	P51649	10910	84.34	Succinic semialdehyde dehydrogenase		L34821 Rat succinate-semialdehyde dehydrogenase (SSADH) mRNA, 3' end /cds=(0,1466) /gb=L34821 /gi=556394 /ug=Rn.10070 /len=1731		Succinate semialdehyde dehydrogenase (EC 1.2.1.24) (NAD(+)-dependent succinic semialdehyde dehydrogenase)
M13962	10911	P06760	10912	BM019597	10913	P08236	10914	88.96	Glucuronidase, beta		M13962mRNA#2 Rat beta-glucuronidase mRNA, complete cds /cds=UNKNOWN /gb=M13962 /gi=204329 /ug=Rn.3692 /len=2472	Lysosomal.	Beta-glucuronidase precursor (EC 3.2.1.31).

Table 2.

Y00480	10915	CAA68540	10916	NM_019111	10917	P01903	10918	70	Rat (diabetic BB) MHC class II alpha chain RT1.D alpha (u) (11 on d.s.)	M15562	M15562 Rat MHC class II RT1.u-D-alpha chain mRNA, 3' end /cds=(0.437) /gb=M15562 /gi=205435 /ug=Rn.4200 /len=805			
M15880	10919	P07808	10920	K01911	10921	P01303	10922	88.66	Neuropeptide Y		M15880 Rat neuropeptide Y mRNA, complete cds /cds=(68,364) /gb=M15880 /gi=205756 /ug=Rn.9714 /len=539	Secreted.	Neuropeptide Y precursor (NPY).	
M15944	10923	P07861	10924	X07166	10925	P08473	10926	91.18	Membrane metallo-endopeptidase (neutral endopeptidase /enkephalinas e) (27 on d.s.)		M15944 Rat enkephalinase (neutral endopeptidase) mRNA /cds=(78,2330) /gb=M15944 /gi=204031 /ug=Rn.11165 /len=3243	Type II membrane protein.	Nepriylsin (EC 3.4.24.11) (Neutral endopeptidase) (NEP)(Enkephalinase).	
M19359	10927	P10065	10928	M17315	10929	P11844	10930	83	Gamma-A-crystallin gene		M19359mRNA#2 Rat gamma-crystallin gene cluster, encoding gamma-A (gamma 1-1), gamma-B (gamma 1-2), gamma-C (gamma 2-1), gamma-D (gamma 2-2), and gamma-E (gamma 3-1) crystallins, complete cds /cds=(27,551) /gb=M19359 /gi=203626 /ug=Rn.10805 /len=618			
M22756	10931	P19234	10932	M22538	10933	P19404	10934	89.72	24-kDa subunit of mitochondrial NADH dehydrogenase		M22756 Rat 24-kDa subunit of mitochondrial NADH dehydrogenase mRNA, 3' end /cds=(0,725) /gb=M22756 /gi=205627 /ug=Rn.11092 /len=771	Matrix and cytoplasmic side of the mitochondrial inner membrane.	NADH-ubiquinone oxidoreductase 24 kDa subunit, precursor(EC 1.6.5.3) (EC 1.6.99.3) (Fragment).	
M23566	10935	A26122	10936	XM_043632		MAHU	10937	73	Alpha-2-macroglobulin (24, 25 on d.s.)		M23566exon RATA2MAC2 Rattus norvegicus alpha-2-macroglobulin gene, 3' end			
M23643	10938	RHRTT	10939	M63582	10940	P20396	10941	55	Thyrotropin releasing hormone		M23643cds RATTRH02 Rattus norvegicus thyrotropin releasing hormone (TRH) gene, exon 2			

Table 2.

M24026	10942	P15978	10943	U14756	10944	I38874		75	RT1 class Ib gene (40 on d.s.)		M24026 Rat MHC class I RT1 (RT44) mRNA (u haplotype), 3' end /cds=(0,182) /gb=M24026 /gi=205446 /ug=Rn.3577 /len=635		Class I histocompatibility antigen, Non-RT1.A alpha-1 chain precursor.
M25758	10945	P16446	10946	M73704	10947	Q00169	10948	98	Phosphatidylinositol transfer protein		M25758 Rat phosphatidylinositol transfer protein mRNA, complete cds /cds=(192,1007) /gb=M25758 /gi=206494 /ug=Rn.9771 /len=1638	Cytoplasmic.	Phosphatidylinositol transfer protein alpha isoform (PtdIns transfer protein alpha) (PtdInsTP) (PI-TP-alpha).
M31178	10949	P07171	10950	X06661	10951	P05937	10952	91.84	Cerebellar Ca-binding protein, spot 35 protein		M31178 Rat calbindin D28 mRNA, complete cds /cds=(285,1070) /gb=M31178 /gi=203234 /ug=Rn.3908 /len=2280		Calbindin (Vitamin D-dependent calcium-binding protein, avian-type)(Calbindin D28) (D-28K) (Spot 35 protein).
NM_012637	10953	P20417	10954	A1803199	10955	NP_002818	10956	88.5	Protein-tyrosine phosphatase (34 on d.s.)	M33962	M33962 Rat protein-tyrosine-phosphatase (PTPase) mRNA, complete cds /cds=(119,1417) /gb=M33962 /gi=206496 /ug=Rn.11317 /len=4127	ASSOCIATED TO THE ENDOPLASMIC RETICULUM VIA ITS C-TERMINAL DOMAIN WITH ITS PHOSPHATASE DOMAIN ORIENTED TOWARDS THE CYTOPLASM.	Protein-tyrosine phosphatase, non-receptor type 1 (EC 3.1.3.48)(Protein-tyrosine phosphatase 1B) (PTP-1B).
M36410	10957	P18297	10958	M76231	10959	P35270	10960	74	Sepiapterin reductase		M36410 Rat sepiapterin reductase mRNA, partial cds /cds=(0,779) /gb=M36410 /gi=206895 /ug=Rn.6658 /len=1157	Cytoplasmic.	Sepiapterin reductase (EC 1.1.1.153) (SPR).

Table 2.

M38135	10961	P00786	10962	AK026152	10963	KHHUH	10964	87.97	Cathepsin H		M38135 Rat cathepsin H (RCHII) mRNA /cds=(102,998) /gb=M38135 /gi=203340 /ug=Rn.1997 /len=1360	Lysosomal.	Cathepsin H precursor (EC 3.4.22.16) (Cathepsin B3) (Cathepsin BA).
M58340	10965	P21425	10966	M60724	10967	P23443	10968	96.36	S6 Kinase		M58340 Rat S6 protein kinase mRNA, complete cds /cds=(21,1598) /gb=M58340 /gi=206841 /ug=Rn.4042 /len=2287	CYTOPLAS MIC. ALSO FOUND IN THE SOLUBLE SYNAPTOSOMAL FRACTIONS.	Ribosomal protein S6 kinase I (EC 2.7.1.-) (S6K) (P70-S6K).
M58364	10969	P22288	10970	U63810	10971	O76071	10972	92.83	GTP cyclohydrolase 1		M58364 Rat GTP cyclohydrolase I mRNA, complete cds /cds=(127,852) /gb=M58364 /gi=204536 /ug=Rn.5933 /len=1016		GTP cyclohydrolase I precursor (EC 3.5.4.16) (GTP-CH-I).
M59814	10973	P09759	10974	AL133099	10975	P54762	10976	94.5	Eph receptor B2 (ELK-related protein tyrosine kinase)		M59814 Rattus norvegicus mRNA sequence /cds=UNKNOWN /gb=M59814 /gi=204022 /ug=Rn.1191 /len=4359	Type I membrane protein.	Ephrin type-B receptor 1 precursor (EC 2.7.1.112) (Tyrosine-protein kinase receptor EPH-2) (ELK).
M60921	10977	P27049	10978	U72649	10979	P78543	10980	88.24	B-cell translocation gene 2, anti-proliferative		M60921 Rat PC3 NGF-inducible anti-proliferative putative secreted protein (PC3) mRNA, complete cds /cds=(64,540) /gb=M60921 /gi=205720 /ug=Rn.4308 /len=2519		BTG2 protein (NGF-inducible anti-proliferative protein PC3).

Table 2.

M61142	10981	P24155	10982	BC000583	10983	P52888	10984	85.87	Metalloendopeptidase		M61142 Rat metalloendopeptidase mRNA, complete cds /cds=(57,1994) /gb=M61142 /gi=205373 /ug=Rn.9490 /len=2314	Cytoplasmic.	Thimet oligopeptidase (EC 3.4.24.15) (Endo-oligopeptidase A)(Endopeptidase 24.15) (PZ-peptidase) (Soluble metallo-endopeptidase).
M63282	10985	P29596	10986	NM_004024	10987	P18847	10988	88.18	Activating transcription factor 3		M63282 Rat leucine zipper protein mRNA, complete cds /cds=(162,707) /gb=M63282 /gi=205236 /ug=Rn.9664 /len=1893	Nuclear	Cyclic-AMP-dependent transcription factor ATF-3 (Activating transcription factor 3) (Liver regeneration factor 1) (LRF-1).
NM_012627	10989	P27775	10990	AF225513	10991	Q9C010	10992	84.4	cAMP-dependent protein kinase (catalytic subunit binding) inhibitor 2	M64092	M64092 Rat testis cAMP-dependent protein kinase inhibitor protein mRNA, complete cds /cds=(255,470) /gb=M64092 /gi=206196 /ug=Rn.9748 /len=1350		cAMP-dependent protein kinase inhibitor, beta form (PKI-beta) (cAMP-dependent protein kinase inhibitor, testis isoform).
M64301	10993	P27704	10994	NM_002748	10995	Q15659	10996	91.51	Mitogen-activated protein kinase 6		M64301 RATERK3 Rat extracellular signal-related kinase (ERK3) mRNA, complete cds		Mitogen-activated protein kinase 6 (EC 2.7.1.-) (Extracellular signal-regulated kinase 3) (ERK-3) (p55-MAPK).

Table 2.

M64376	10997	P23265	10998	NM_012377	10999	g3290001		80.65	Rat olfactory protein		M64376 RATOLFPROB Rat olfactory protein mRNA, complete cds	Integral membrane protein.	Olfactory receptor-like protein F3.
M64711	11000	P22388	11001	BC009720	11002	P05305	11003	89.44	Endothelin 1		M64711 Rat endothelin-1 mRNA , complete cds /cds=(184,792) /gb=M64711 /gi=204067 /ug=Rn.10918 /len=1385	Secreted.	Endothelin-1 precursor (ET-1).
M73049	11004	g55622		S78296	11005	Q16352	11006	89	Interneixin, alpha		M73049 Rat alpha-interneixin gene, complete cds /cds=(1292,2809) /gb=M73049 /gi=204963 /ug=Rn.10966 /len=4535		
M74223	11007	P20156	11008	BF223121	11009	g5630085		94.34	VGf nerve growth factor inducible		M74223 Rat VGf mRNA, complete cds /cds=(183,2036) /gb=M74223 /gi=207650 /ug=Rn.9704 /len=2507	Stored in secretory vesicles and then secreted.	Neurosecretory protein VGf precursor (VGf8a protein).
NM_0073	11010	P25961	11011	U17418	11012	Q03431	11013	87.33	Parathyroid hormone receptor	M77184	M77184 Rat parathyroid hormone receptor mRNA, complete cds /cds=(72,1847) /gb=M77184 /gi=206034 /ug=Rn.11357 /len=2065	Integral membrane protein.	Parathyroid hormone/parathyroid hormone-related peptide receptor/precursor (PTH/PTHr receptor).
M80601	11014	P47816	11015	AK055180	11016	g3790133		87.27	Programmed cell death 2		M80601 Rat zinc finger protein (RP8) mRNA, 3' end /cds=(0,863) /gb=M80601 /gi=206717 /ug=Rn.6959 /len=912	Nuclear .	Programmed cell death protein 2 (Zinc finger protein Rp-8) (Fragment).

Table 2.

M83143	11017	P13721	11018	AA705426	11019	P15907	11020	89.67	beta-galactoside-alpha 2,6-sialyltransferase		M83143 Rat beta-galactoside-alpha 2,6-sialyltransferase mRNA /cds=(104,748) /gb=M83143 /gi=203146 /ug=Rn.1409 /len=3224	TYPE II MEMBRANE PROTEIN. MEMBRANE- BOUND FORM IN TRANS CISTERNAE OF GOLGI, SOLUBLE FORM IN BODY FLUIDS.	CMP-N- acetylneuraminate-beta-galactosamide-alpha-2,6-sialyltransferase (EC 2.4.99.1)
M83678	11021	P35286	11022	X75593	11023	P51153	11024	90	RAB13		M83678 Sprague-Dawley (clone LRB10) RAB13 mRNA, 3 end /cds=(0,494) /gb=M83678 /gi=206532 /ug=Rn.9819 /len=857		Ras-related protein Rab-13 (Fragment).
M86341	11025	Q02589	11026	L13291	11027	P54922	11028	82.79	ESTs, Highly similar to ADP-RIBOSYLARGININE HYDROLASE [R.norvegicus]		M86341 RATADPRHA Rat ADP-ribosylarginine hydrolase mRNA, complete cds		ADP-ribosylarginine hydrolase (EC 3.2.2.19) (ADP-ribose-L-argininecleaving enzyme).
M86389	11029	P42930	11030	L39370	11031	HHU27	11032	82	Heat shock 27 kDa protein (33 on d.s.)		M86389cds RATHSP27A Rat heat shock protein (Hsp27) mRNA, complete cds		Heat shock 27 kDa protein (HSP 27).
M86621	11033	P54290	11034	M76560	11035	Q02641	11036	95	Calcium channel subunit alpha 2 delta (dihydropyridine - sensitive L-type)		M86621 Rat dihydropyridine-sensitive L-type calcium channel alpha-2 subunit (CCHL2A) gene, complete cds /cds=(154,3429) /gb=M86621 /gi=203954 /ug=Rn.11276 /len=3804	Integral membrane protein.	Dihydropyridine-sensitive L-type, calcium channel alpha-2/delta subunits precursor.

Table 2.

M87067	11037	JQ1484	X77533	11038	Q13705	11039	91.12	Active receptor 2b (transmembra ne serine kinase)		M87067 R.norvegicus activin type IIB receptor mRNA /cds=UNKNOWN /gb=M87067 /gi=202696 /ug=Rn.24240 /len=2041		
M88709	11040	P32736	11041 L34774	11042	Q14982	11043	92.08	Cell adhesion- like molecule		M88709 Rattus norvegicus cell adhesion-like molecule mRNA, complete CDS /cds=(637,1653) /gb=M88709 /gi=203245 /ug=Rn.11366 /len=3054	Attached to the membrane by a GPI- anchor.	Opioid binding protein/cell adhesion molecule precursor (OBCAM)(Opioid- binding cell adhesion molecule) (OPCML).
M91652	11044	P09606	11045 Y00387	11046	P15104	11047	92	Glutamine synthetase (glutamate- ammonia ligase) (39 on d.s.)		M91652completeSeq Rat glutamine synthetase (glnA) mRNA, complete cds /cds=UNKNOWN /gb=M91652 /gi=204348 /ug=Rn.2204 /len=2793	Cytoplasmic.	Glutamine synthetase (EC 6.3.1.2) (Glutamate-- ammonia ligase).
M98049	11048	P25031	11049 D13510	11050	Q06141	11051	80.22	Pancreatitis- associated protein precursor (pap)		M98049 RATPAP Rattus rattus pancreatitis- associated protein (pap) mRNA, complete cds	SECRETED. FOUND IN THE APICAL REGION OF PANCREATIC ACINAR CELLS.	Pancreatitis- associated protein 1 precursor (Peptide 23) (REG-2).
M99418	11052	P30553	11053 L04473	11054	P32239	11055	88.73	Cholecystokini n B receptor		M99418 Rat brain cholecystokinin receptor mRNA, complete cds /cds=(135,1493) /gb=M99418 /gi=203459 /ug=Rn.10324 /len=2243	Integral membrane protein.	Gastrin/cholec y stokinin type B receptor (CCK- B receptor) (CCK-BR).
M63983	11056	P27605	11057 L29382	11058	AAB593 92	11059	94	Hypoxanthine phosphoribosy ltransferase	AA799402	rc_AA799402 EST188899 Rattus norvegicus cDNA, 3' end /clone=RHEAA77 /clone_end=3 /gb=AA799402 /gi=2862357 /ug=Rn.6182 /len=590	Cytoplasmic.	Hypoxanthine- guanine phosphoribosyltr ansferase (EC 2.4.2.8) (HGPRT)(HGP RTase).

Table 2.

AA799406	11060	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA799406 EST18903 Rattus norvegicus cDNA, 3' end /clone=RHEAA79 /gb=AA799406 /gi=2862361 /ug=Rn.90 /len=591		
AA799448	11061	No Rat Protein Found.		BF109813	11062	P13726	11063	96.15	EST(not recognised)	rc_AA799448 EST18945 Rattus norvegicus cDNA, 3' end /clone=RHEAB18 /gb=AA799448 /gi=2862403 /ug=Rn.8296 /len=615		
AA799505	11064	No Rat Protein Found.		X76057	11065	P34949	11066	90.08	ESTs, Moderately similar to 2006245A phosphomannose isomerase [H.sapiens]	rc_AA799505 EST189002 Rattus norvegicus cDNA, 3' end /clone=RHEAB83 /gb=AA799505 /gi=2862460 /ug=Rn.6195 /len=612		
NM_01358	11067	Q62093	11068	XM_036786		XP_036786		93	Splicing factor, arginine/serine rich 2 (SC-35) (15 on d.s.)	rc_AA799538 EST189035 Rattus norvegicus cDNA, 3' end /clone=RHEAC30 /gb=AA799538 /gi=2862493 /ug=Rn.2951 /len=512	Nuclear.	Splicing factor, arginine/serine-rich 2 (Splicing factor SC35) (SC-35)(Splicing component, 35 kDa) (PR264 protein).
AA799539	11069	No Rat Protein Found.		AK000931	11070	NP_005997	11071	94.31	ESTs, Weakly similar to 2118318A promyelocyte leukemia Zn finger protein [M.musculus]	rc_AA799539 EST189036 Rattus norvegicus cDNA, 3' end /clone=RHEAC31 /gb=AA799539 /gi=2862494 /ug=Rn.6200 /len=615		
AA799542	11072	No Rat Protein Found.		AJ132695	11073	CAA10733	11074	88	rac1 gene	rc_AA799542 EST189039 Rattus norvegicus cDNA, 3' end /clone=RHEAC34 /gb=AA799542 /gi=2862497 /ug=Rn.980 /len=553		

Table 2.

AA799551	11075	S06147	11076	AF322067	11077	Q9BZG1	11078	95.39	ESTs, Weakly similar to S06147 GTP-binding protein rab1B [R.norvegicus]			rc_AA799551 EST189048 Rattus norvegicus cDNA, 3' end /clone=RHEAC45 /clone_end=3 /gb=AA799551 /gi=2862506 /ug=Rn.11546 /len=616			
AF206162	11079	Q9WVL2	11080	NM_005419	11081	P52630	11082	67	Signal transducer and activator of transcription 2 (Stat2)	AA799569		rc_AA799569 EST189066 Rattus norvegicus cDNA, 3' end /clone=RHEAC65 /clone_end=3 /gb=AA799569 /gi=2862524 /ug=Rn.22213 /len=491	Nuclear; translocated into the nucleus in response to phosphorylation.	Signal transducer and activator of transcription 2.	
AA799581	11083	No Rat Protein Found.		D86972	11084	Q93075	11085	89	ESTs, Moderately similar to PUTATIVE DEOXYRIBONUCLEASE KIAA0218 [H.sapiens]			rc_AA799581 EST189078 Rattus norvegicus cDNA, 3' end /clone=RHEAC77 /clone_end=3 /gb=AA799581 /gi=2862536 /ug=Rn.6207 /len=569			
AA799599	11086	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)			rc_AA799599 EST189096 Rattus norvegicus cDNA, 3' end /clone=RHEAC95 /clone_end=3 /gb=AA799599 /gi=2862554 /ug=Rn.6209 /len=590			
AA799600	11087	P43035	11088	L13388	11089	S36113		33	ESTs, Weakly similar to PLATELET-ACTIVATING FACTOR ACETYLHYDROLASE IB ALPHA SUBUNIT [R.norvegicus]			rc_AA799600 EST189097 Rattus norvegicus cDNA, 3' end /clone=RHEAC96 /clone_end=3 /gb=AA799600 /gi=2862555 /ug=Rn.3774 /len=591			

Table 2.

AA799609	11090	No Rat Protein Found.		XM_012017		XP_012017	97	ESTs, Moderately similar to T43443 hypothetical protein DKFZp434A2315.1 [H.sapiens]		rc_AA799609 EST189106 Rattus norvegicus cDNA, 3' end /clone=RHEAD12 /clone_end=3 /gb=AA799609 /gi=2862564 /ug=Rn.6210 /len=663		
AA799616	11091	No Rat Protein Found.		Z50022	11092	P53801	82	ESTs, Moderately similar to PUTATIVE SURFACE GLYCOPROTEIN C21ORF1 PRECURSOR [H.sapiens]		rc_AA799616 EST189113 Rattus norvegicus cDNA, 3' end /clone=RHEAD20 /clone_end=3 /gb=AA799616 /gi=2862571 /ug=Rn.4248 /len=599		
AF095585	11094	AAD13197	11095	AF345905	11096	JC2324	88.78	ESTs, Weakly similar to A55071 hydrogen peroxide-inducible protein hic-5 - mouse [M.musculus] (LIM protein - homo and rattus)	AA799637	rc_AA799637 EST189134 Rattus norvegicus cDNA, 3' end /clone=RHEAD45 /clone_end=3 /gb=AA799637 /gi=2862592 /ug=Rn.25425 /len=571		
AA799645	11098	O08589	11099	U72245	11100	O00168	80	FXVD domain-containing ion transport regulator 1		rc_AA799645 EST189142 Rattus norvegicus cDNA, 3' end /clone=RHEAD54 /clone_end=3 /gb=AA799645 /gi=2862600 /ug=Rn.3828 /len=591	Type I membrane protein.	Phospholipase precursor (FXVD domain-containing ion transport regulator 1).

Table 2.

X65687	11102	P31750	11103	XM_015191		XP_015191		98	v-akt murine thymoma viral oncogene	AA799664	rc_AA799664 EST189161 Rattus norvegicus cDNA, 3' end /clone=RHEAD75 /clone_end=3 /gb=AA799664 /gi=2862619 /ug=Rn.6217 /len=611	Cytoplasmic and nuclear activation by integrin-linked protein kinase 1 (ILK1).	RAC-alpha serine/threonine kinase (EC 2.7.1.-) (RAC- PK-alpha) (AKT1kinase) (Protein kinase B) (PKB) (C-AKT) (Thymoma viral proto-oncogene).
AA799681	11104	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA799681 EST189178 Rattus norvegicus cDNA, 3' end /clone=RHEAD96 /clone_end=3 /gb=AA799681 /gi=2862636 /ug=Rn.20182 /len=461		
AA799687	11105	No Rat Protein Found.		AI865528	11106	No Human Protein Found.		88.35	EST(not recognised)		rc_AA799687 EST189184 Rattus norvegicus cDNA, 3' end /clone=RHEAE07 /clone_end=3 /gb=AA799687 /gi=2862642 /ug=Rn.3812 /len=564		
AA799732	11107	No Rat Protein Found.		X96484	11108	Q14129	11109	91.03	ESTs, Moderately similar to DGCR6 PROTEIN [M.musculus]		rc_AA799732 EST189229 Rattus norvegicus cDNA, 3' end /clone=RHEAE60 /clone_end=3 /gb=AA799732 /gi=2862687 /ug=Rn.22467 /len=579		
AF177476	11110	AAF60222	11111	XM_017042		XP_017042		82	CDK5 activator-binding protein C53	AA799745	rc_AA799745 EST189242 Rattus norvegicus cDNA, 3' end /clone=RHEAE75 /clone_end=3 /gb=AA799745 /gi=2862700 /ug=Rn.3727 /len=568		
AA799751	11112	No Rat Protein Found.		AV724415	11113	No Human Protein Found.		85.58	EST(not recognised)		rc_AA799751 EST189248 Rattus norvegicus cDNA, 3' end /clone=RHEAE83 /clone_end=3 /gb=AA799751 /gi=2862706 /ug=Rn.3583 /len=671		
AA799755	11114	P15087	11115	D86479	11116	JC5256	11117	89.52	ESTs, Weakly similar to CARBOXYPEPTIDASE H PRECURSOR [R.norvegicus]		rc_AA799755 EST189252 Rattus norvegicus cDNA, 3' end /clone=RHEAE91 /clone_end=3 /gb=AA799755 /gi=2862710 /ug=Rn.17143 /len=578		

Table 2.

AA799783	11118	No Rat Protein Found.	AI682207	11119	No Human Protein Found.	96.3	EST(not recognised)		rc_AA799783 EST189280 Rattus norvegicus cDNA, 3' end /clone=RHEAF28 /clone_end=3 /gb=AA799783 /gi=2862738 /ug=Rn.12965 /len=609		
AA799796	11120	No Rat Protein Found.	AL137295	11121	No Human Protein Found.	91.94	EST(not recognised)		rc_AA799796 EST189293 Rattus norvegicus cDNA, 3' end /clone=RHEAF46 /clone_end=3 /gb=AA799796 /gi=2862751 /ug=Rn.3620 /len=631		
D88250	11122	BAA25797	XM_006641		XP_006641	76	ESTs, Weakly similar to JC6554 probable serine proteinase [R.norvegicus]	AA799803	rc_AA799803 EST189300 Rattus norvegicus cDNA, 3' end /clone=RHEAF55 /clone_end=3 /gb=AA799803 /gi=2862758 /ug=Rn.6235 /len=522		
AA799804	11124	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA799804 EST189301 Rattus norvegicus cDNA, 3' end /clone=RHEAF56 /clone_end=3 /gb=AA799804 /gi=2862759 /ug=Rn.25117 /len=582		
U18293	11125	Q62728	X79510	11127	Q16825	87.03	ESTs, Moderately similar to PROTEIN TYROSINE PHOSPHATASE, NON-RECEPTOR TYPE 3 [H.sapiens] (see 5 on d.s.)	AA799812	rc_AA799812 EST189309 Rattus norvegicus cDNA, 3' end /clone=RHEAF64 /clone_end=3 /gb=AA799812 /gi=2862767 /ug=Rn.22271 /len=500		Protein tyrosine phosphatase, non-receptor type 21 (EC 3.1.3.48)(Protein tyrosine phosphatase 2E).
AA799829	11129	No Rat Protein Found.	U79253	11130	Q99766	77	ESTs, Moderately similar to ATP SYNTHASE COUPLING FACTOR B, MITOCHONDRIAL PRECURSOR [H.sapiens]		rc_AA799829 EST189326 Rattus norvegicus cDNA, 3' end /clone=RHEAF86 /clone_end=3 /gb=AA799829 /gi=2862784 /ug=Rn.25181 /len=517		

Table 2.

AA7998 90	11132	No Rat Protein Found.		AW96670 2	11133	No Human Protein Found.	84.24	EST(not recognised)		rc_AA799890 EST189387 Rattus norvegicus cDNA, 3' end /clone=RHEAG58 /clone_end=3 /gb=AA799890 /gi=2862845 /ug=Rn.22781 /len=483		
AA7999 71	11134	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		ESTs, Weakly similar to S52675 probable membrane protein YDR109c [S.cerevisiae]		rc_AA799971 EST189468 Rattus norvegicus cDNA, 3' end /clone=RHEAH76 /clone_end=3 /gb=AA799971 /gi=2862926 /ug=Rn.8436 /len=483		
AA7999 91	11135	No Rat Protein Found.				No Human Protein Found.	93.68	EST(not recognised)		rc_AA799991 EST189488 Rattus norvegicus cDNA, 3' end /clone=RHEAI01 /clone_end=3 /gb=AA799991 /gi=2862946 /ug=Rn.3844 /len=712		
AA8000 33	11136	No Rat Protein Found.		BI195716	11137	P50395	97.35	ESTs, Weakly similar to MUCIN 2 PRECURSOR [H.sapiens]		rc_AA800033 EST189530 Rattus norvegicus cDNA, 3' end /clone=RHEAI61 /clone_end=3 /gb=AA800033 /gi=2862988 /ug=Rn.6273 /len=643		
AA8000 36	11139	No Rat Protein Found.		NM_0145 75	11140	NP_055 390	91.37	Schwannomin- interacting protein 1 (SCHIP1)		rc_AA800036 EST189533 Rattus norvegicus cDNA, 3' end /clone=RHEAI65 /clone_end=3 /gb=AA800036 /gi=2862991 /ug=Rn.22212 /len=514		
AA8001 70	11142	No Rat Protein Found.		NM_0034 43	11143	Q13105	38	ESTs, Weakly similar to ECTODERM- NEURAL CORTEX-1 PROTEIN (ENC-1) [M.musculus]		rc_AA800170 EST189667 Rattus norvegicus cDNA, 3' end /clone=RHEAM03 /clone_end=3 /gb=AA800170 /gi=2863125 /ug=Rn.22462 /len=593		
AA8001 99	11145	B39066		BE396293	11146	T34520	85.19	ESTs, Weakly similar to B39066 proline-rich protein 15 - [R.norvegicus]		rc_AA800199 EST189696 Rattus norvegicus cDNA, 3' end /clone=RHEAM36 /clone_end=3 /gb=AA800199 /gi=2863154 /ug=Rn.2990 /len=631		

Table 2.

AA800200	11147	No Rat Protein Found.		AL042404	11148	O00519	11149	90.4	similar to hypothetical protein FLJ22609 (H. sapiens)		rc_AA800200 EST189697 Rattus norvegicus cDNA, 3' end /clone=RHEAM37 /clone_end=3 /gb=AA800200 /gi=2863155 /ug=Rn.6297 /len=476			Sarcoplasmic endoplasmic reticulum calcium ATPase 2 (EC 3.6.3.8)(Calcium pump 2)
AA800212	11150	P11507	11151	M23114	11152	P16615	11153	91.03	ATPase, Ca++ transporting, cardiac muscle, slow twitch 2		rc_AA800212 EST189709 Rattus norvegicus cDNA, 3' end /clone=RHEAM51 /clone_end=3 /gb=AA800212 /gi=2863167 /ug=Rn.2305 /len=727	INTEGRAL MEMBRANE PROTEIN. SARCOPLASMIC AND ENDOPLASMIC RETICULUM		(SERCAs) (SR Ca(2+)-ATPase 2) (Calcium-transportingATPase sarcolemmal sarcoplasmic reticulum type, slow twitch skeletal muscleisofo
BC002146	11154	AAH02146	11155	XM_006736		XP_006736		91	similar to HSPC160 protein (EST)	AA800268	rc_AA800268 EST189765 Rattus norvegicus cDNA, 3' end /clone=RHEAN22 /clone_end=3 /gb=AA800268 /gi=2863223 /ug=Rn.3875 /len=569			
AA800318	11156	B26423	11157	M13203	11158	ITHUC1	11159	81	ESTs, Weakly similar to B26423 serine proteinase inhibitor 2.2 - rat [R.norvegicus]		rc_AA800318 EST189815 Rattus norvegicus cDNA, 3' end /clone=RHEAN84 /clone_end=3 /gb=AA800318 /gi=2863273 /ug=Rn.947 /len=560			
AA800503	11160	NP_058839	11161	XM_010417		XP_010417		47	Homo Sapiens proline-rich Gla (G-carboxyglutamic acid) polypeptide 1		rc_AA800503 EST190000 Rattus norvegicus cDNA, 3' end /clone=RLUAB01 /clone_end=3 /gb=AA800503 /gi=2863458 /ug=Rn.6320 /len=492			

Table 2.

AA8005 19	11162	No Rat Protein Found.	No human homolog found.	11164	No Human Protein Found.	11165	96.79	EST(not recognised)		rc_AA800519 EST190016 Rattus norvegicus cDNA, 3 end /clone=RLUAB11 /clone_end=3 /gb=AA800519 /gi=2863474 /ug=Rn.3883 /len=612		
AA8005 35	11163	No Rat Protein Found.	AF247703	11164	T47144	11165	96.79	ESTs, Weakly similar to T47144 hypothetical protein DKFP761E1 347.1 [H.sapiens]		rc_AA800535 EST190032 Rattus norvegicus cDNA, 3 end /clone=RLUAB20 /clone_end=3 /gb=AA800535 /gi=2863490 /ug=Rn.8573 /len=476		
AA8005 72	11166	No Rat Protein Found.	AF041037	11167	O43609	11168	93.99	Homo sapiens novel antagonist of FGF signaling (sprouty-1)		rc_AA800572 EST190069 Rattus norvegicus cDNA, 3 end /clone=RLUAB42 /clone_end=3 /gb=AA800572 /gi=2863527 /ug=Rn.22787 /len=473		
AA8006 13	11169	P47973	M92843	11170	P26651	11172	86.92	Rattus norvegicus gene for TIS11		rc_AA800613 EST190110 Rattus norvegicus cDNA, 3 end /clone=RLUAB70 /clone_end=3 /gb=AA800613 /gi=2863568 /ug=Rn.2454 /len=506		
AA8006 39	11173	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA800639 EST190136 Rattus norvegicus cDNA, 3 end /clone=RLUAB85 /clone_end=3 /gb=AA800639 /gi=2863594 /ug=Rn.6615 /len=583		
AA8006 78	11174	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA800678 EST190175 Rattus norvegicus cDNA, 3 end /clone=RLUAK20 /clone_end=3 /gb=AA800678 /gi=2863633 /ug=Rn.8592 /len=452		
AA8007 08	11175	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA800708 EST190205 Rattus norvegicus cDNA, 3 end /clone=RLUAK52 /clone_end=3 /gb=AA800708 /gi=2863663 /ug=Rn.3886 /len=641		
AA8007 49	11176	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA800749 EST190246 Rattus norvegicus cDNA, 3 end /clone=RLUAL02 /clone_end=3 /gb=AA800749 /gi=2863704 /ug=Rn.1897 /len=637		

Table 2.

AA800772	11177	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA800772 EST190269 Rattus norvegicus cDNA, 3' end /clone=RLUAL27 /clone_end=3 /gb=AA800772 /gi=2863727 /ug=Rn.6639 /len=600		
AA800790	11178	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA800790 EST190287 Rattus norvegicus cDNA, 3' end /clone=RLUAL48 /clone_end=3 /gb=AA800790 /gi=2863745 /ug=Rn.23464 /len=528		
AA80085	11179	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA800885 EST190382 Rattus norvegicus cDNA, 3' end /clone=RLUAM63 /clone_end=3 /gb=AA800885 /gi=2863840 /ug=Rn.6660 /len=422		
AA800912	11180	No Rat Protein Found.	AF118270	11181	Q9UHL9	11182	Muscle TFII-I repeat domain-containing protein 1	91.44	rc_AA800912 EST190409 Rattus norvegicus cDNA, 3' end /clone=RLUAN02 /clone_end=3 /gb=AA800912 /gi=2863867 /ug=Rn.6665 /len=423		
NM_011602	11183	P26039	11184	11185	Q9Y490	11186	Talin	90	rc_AA800962 EST190459 Rattus norvegicus cDNA, 3' end /clone=RLUAN59 /clone_end=3 /gb=AA800962 /gi=2863917 /ug=Rn.6674 /len=495		Talin.
AA817854	11187	P13635	11188	11189	P00450	11190	Ceruloplasmin (ferroxidase)	86.44	rc_AA817854 UI-R-A0-ae-g-10-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-ae-g-10-0-UI /clone_end=3 /gb=AA817854 /gi=2946779 /ug=Rn.8598 /len=438		Ceruloplasmin precursor (EC 1.16.3.1) (Ferroxidase).
NM_012925	11191	P27274	11192	11193	NP_000602	11194	CD59 antigen	92.06	rc_AA818025 UI-R-A0-ai-a-06-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-ai-a-06-0-UI /clone_end=3 /gb=AA818025 /gi=2887905 /ug=Rn.1231 /len=487	Attached to the membrane by a GPI-anchor.	CD59 glycoprotein precursor (Membrane attack complex inhibitionfactor) (MACIF) (MAC-inhibitory protein) (MAC-IP) (Protectin).
NM_022538	11195	NP_071983	11196	11197	P42285	11198	Phosphatidate phosphohydrolase type 2	91.88	rc_AA818593 UI-R-A0-bc-g-01-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-bc-g-01-0-UI /clone_end=3 /gb=AA818593 /gi=2889332 /ug=Rn.1944 /len=475		

Table 2.

AA8193 38	11199	Q07984	11200	Z69043	11201	P51571	11202	87.92	Signal sequence receptor, delta		rc_AA819338 UI-R-A0-bc-c-12-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A0-bc-c-12-0-UI /clone_end=3 /gb=AA819338 /gi=2889427 /ug=Rn.1999 /len=544	Type I membrane protein. Endoplasmic reticulum.	Translocon- associated protein, delta subunit precursor (TRAP- delta)(Signal sequence receptor delta subunit) (SSR- delta).
AF2810 18	11203	AAF812 65	11204	X76771	11205	P39748	11206	89.69	Flag structure- specific endonuclease	AA819793	rc_AA819793 UI-R-A0-aq-f-03-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-aq-f- 03-0-UI /clone_end=3 /gb=AA819793 /gi=2888980 /ug=Rn.16664 /len=522		
AA8496 48	11207	P20280	11208	X04790	11209	P10398	11210	92.86	Ribosomal protein L21		rc_AA849648 EST192415 Rattus norvegicus cDNA, 3 end /clone=RMUJAH28 /clone_end=3 /gb=AA849648 /gi=2937188 /ug=Rn.2554 /len=413		60S ribosomal protein L21.
AA8585 71	11211	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA858571 UI-R-E0-bq-f-03-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bq-f- 03-0-UI /clone_end=3 /gb=AA858571 /gi=2948911 /ug=Rn.82 /len=357		
AA8586 00	11212	No Rat Protein Found.		D38496	11213	I5438	11214	98	ESTs, Highly similar to I54388 LZTR- 1 [H.sapiens]		rc_AA858600 UI-R-E0-bq-h-10-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bq-h-10-0-UI /clone_end=3 /gb=AA858600 /gi=2948940 /ug=Rn.21404 /len=559		
AF2961 31	11215	Q9ERM 3	11216	BI521353	11217	XP_035 370	11218	89.11	Diacylglycerol acyltransferas e	AA859529	rc_AA859529 UI-R-E0-br-b-12-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-br-b- 12-0-UI /clone_end=3 /gb=AA859529 /gi=2949049 /ug=Rn.252 /len=431	Integral membrane protein. Endoplasmic reticulum .	Diacylglycerol O- acyltransferase 1 (EC 2.3.1.20) (Diglycerideacylt ransferase).
AA8595 45	11219	No Rat Protein Found.		AK001787	11220	No Human Protein Found.	11221	89.44	EST(not recognised)		rc_AA859545 UI-R-E0-br-d-06-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-br-d- 06-0-UI /clone_end=3 /gb=AA859545 /gi=2949065 /ug=Rn.261 /len=512		

Table 2.

AA859652	11222	No Rat Protein Found.		AI658971	11223	No Human Protein Found.		82.61	EST(not recognised)		rc_AA859652 UI-R-E0-bs-b-06-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bs-b-06-0-UI /clone_end=3 /gb=AA859652 /gi=2949172 /ug=Rn.35 /len=529		
AA859690	11224	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA859690 UI-R-E0-bx-e-11-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bx-e-11-0-UI /clone_end=3 /gb=AA859690 /gi=2949210 /ug=Rn.51 /len=419		
AB024566	11225	BAA89248	11226	XM_017698	11227	XP_017698	11228	84	Heparan sulfate 6-sulfotransferase 1	AA859740	rc_AA859740 UI-R-E0-bx-b-06-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bx-b-06-0-UI /clone_end=3 /gb=AA859740 /gi=2949260 /ug=Rn.22626 /len=418		
AA859804	11229	No Rat Protein Found.		BC005392	11230	JQ1037	11231	95.17	ESTs, Highly similar to SAP3 GANGLIOSIDE GM2 ACTIVATOR PRECURSOR [M.musculus]		rc_AA859804 UI-R-E0-bu-h-07-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bu-h-07-0-UI /clone_end=3 /gb=AA859804 /gi=2949324 /ug=Rn.769 /len=455		
AA859827	11232	BAA83085	11233	BF745219	11234	P04155	11235	93.27	Uridine-cytidine kinase 2		rc_AA859827 UI-R-E0-cc-f-10-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cc-f-10-0-UI /clone_end=3 /gb=AA859827 /gi=2949347 /ug=Rn.24811 /len=500		
AA859837	11236	P36577	11237	NM_004293	11238	Q9Y2T3	11239	87.87	Guanine deaminase		rc_AA859837 UI-R-E0-cc-g-09-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cc-g-09-0-UI /clone_end=3 /gb=AA859837 /gi=2949357 /ug=Rn.24783 /len=486		Arrestin-D (Fragment).
AA859898	11240	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA859898 UI-R-E0-cg-a-02-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cg-a-02-0-UI /clone_end=3 /gb=AA859898 /gi=2949418 /ug=Rn.809 /len=503		
AA859899	11241	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA859899 UI-R-E0-cg-a-03-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cg-a-03-0-UI /clone_end=3 /gb=AA859899 /gi=2949419 /ug=Rn.810 /len=353		

Table 2.

AA859909	11242	No Rat Protein Found.		No human homolog found.		No Human Protein Found.					rc_AA859909 UI-R-E0-cg-b-02-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cg-b-02-0-UI /clone_end=3 /gb=AA859909 /gi=2949429 /ug=Rn.815 /len=531		
AA859911	11243	Q11205	11244	X96667	11245	JC5251	11246	87.89	Sialyltransferase 5		rc_AA859911 UI-R-E0-cg-b-05-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cg-b-05-0-UI /clone_end=3 /gb=AA859911 /gi=2949431 /ug=Rn.24851 /len=447	TYPE II MEMBRANE PROTEIN. MEMBRANE- BOUND FORM IN TRANS CISTERNAE OF GOLGI, SOLUBLE FORM IN BODY FLUIDS.	CMP-N- acetylneuraminate-beta- galactosamide-alpha-2,3- sialyltransferase (EC 2.4.99.-) (Beta- galactoside alpha-2,3- sialyltransferase) (Alpha2,3-ST) (Gal-beta-1,3-GalNAc-alpha-2,3-sialyltransf
BC011490	11247	AAH11490	11248	NM_000742	11249	Q15822	11250	77	Similar to cholinergic receptor, nicotinic, alpha polypeptide 2 (neuronal)	AA860010	rc_AA860010 UI-R-E0-ca-c-07-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-ca-c-07-0-UI /clone_end=3 /gb=AA860010 /gi=2949530 /ug=Rn.872 /len=400		
AA860015	11251	No Rat Protein Found.		F34867	11252	XP_002616		95.2	ESTs, Weakly similar to T50607 hypothetical protein DKFZp434I1016.1 [H.sapiens]		rc_AA860015 UI-R-E0-ca-c-12-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-ca-c-12-0-UI /clone_end=3 /gb=AA860015 /gi=2949535 /ug=Rn.857 /len=590		

Table 2.

Y17793	11253	CAA76 850	11254	AF040990	11255	AAC395 75	11256	87	Mus musculus mRNA for Dutt1 protein (strong homology to Roundabout 1)	AA860017	rc_AA860017 UI-R-E0-ca-d-02-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-ca-d-02-0-UI /clone_end=3 /gb=AA860017 /gi=2949537 /ug=Rn.876 /len=528		
AA8600 39	11257	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)	rc_AA860039 UI-R-E0-bz-f-06-0-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bz-f- 06-0-UI /clone_end=3 /gb=AA860039 /gi=2949559 /ug=Rn.889 /len=341			
NM_01 7158	11258	PC5179	11259	NM_0007 69	11260	P33261	11261	72	cytochrome P450 mRNA (8, 29, 48, 49, 50 on d.s.)	AA866240	rc_AA866240 UI-R-A0-bg-g-05-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A0-bg-g-05-0-UI /clone_end=3 /gb=AA866240 /gi=2961686 /ug=Rn.3010 /len=291	Membrane- bound. Endoplasmic reticulum.	Cytochrome P450 2C7 (EC 1.14.14.1) (CYP11C7) (P450F) (PTF1)
AA8662 76	11262	A60543		AK027693	11263	Q96S97	11264	94.64	ESTs, Weakly similar to A60543 protein kinase [R.norvegicus]	rc_AA866276 UI-R-A0-bg-b-06-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A0-bg-b-06-0-UI /clone_end=3 /gb=AA866276 /gi=2961737 /ug=Rn.3035 /len=476			
AA8664 26	11265	No Rat Protein Found.		AA937337	11266	No Human Protein Found.		92.41	EST(not recognised)	rc_AA866426 UI-R-E0-ch-d-05-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-ch-d-05-0-UI /clone_end=3 /gb=AA866426 /gi=2961887 /ug=Rn.3101 /len=502			
AA8664 39	11267	No Rat Protein Found.		AK057056	11268	No Human Protein Found.		91.07	EST(not recognised)	rc_AA866439 UI-R-E0-ch-g-02-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-ch-g-02-0-UI /clone_end=3 /gb=AA866439 /gi=2961900 /ug=Rn.3109 /len=248			
AF1212 17	11269	P02466	11270	D21235	11271	P54725	11272	95.37	Pro-alpha 2(I) collagen (COL1A2)	AA866454	rc_AA866454 UI-R-E0-br-e-07-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-br-e- 07-0-UI /clone_end=3 /gb=AA866454 /gi=2961915 /ug=Rn.3115 /len=516		Collagen alpha 2(I) chain precursor.

Table 2.

AA874803	11273	No Rat Protein Found.	NC_001807		NP_008352	89	ESTs, Moderately similar to 0806162L protein URF5 [M.musculus]		rc_AA874803 UI-R-E0-bw-g-08-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bw-g-08-0-UI /clone_end=3 /gb=AA874803 /gi=2979751 /ug=Rn.3130 /len=524		
AA874809	11274	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA874809 UI-R-E0-bw-h-02-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bw-h-02-0-UI /clone_end=3 /gb=AA874809 /gi=2979757 /ug=Rn.24363 /len=528		
AA874856	11275	No Rat Protein Found.	AK000970	11276	T00268	90.32	ESTs, Highly similar to T00268 hypothetical protein KIAA0597 [H.sapiens]		rc_AA874856 UI-R-E0-cg-h-11-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cg-h-11-0-UI /clone_end=3 /gb=AA874856 /gi=2979804 /ug=Rn.3146 /len=548		
AA874875	11277	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA874875 UI-R-E0-ci-e-07-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ci-e-07-0-UI /clone_end=3 /gb=AA874875 /gi=2979823 /ug=Rn.21411 /len=456		
AA874912	11278	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA874912 UI-R-E0-ck-f-12-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ck-f-12-0-UI /clone_end=3 /gb=AA874912 /gi=2979860 /ug=Rn.3309 /len=515		
AA874927	11279	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA874927 UI-R-E0-ck-h-07-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ck-h-07-0-UI /clone_end=3 /gb=AA874927 /gi=2979875 /ug=Rn.3178 /len=475		
AA874952	11280	No Rat Protein Found.	AB007885	11281	NP_005086	87.77	zinc finger protein 262 (ZNF262)		rc_AA874952 UI-R-E0-ci-g-03-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ci-g-03-0-UI /clone_end=3 /gb=AA874952 /gi=2979900 /ug=Rn.3185 /len=541		
AA874990	11283	No Rat Protein Found.	BC003042	11284	XP_035810	93.78	ESTs, Weakly similar to T25404 hypothetical protein T28C6.1 [C.elegans]		rc_AA874990 UI-R-E0-cf-d-02-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cf-d-02-0-UI /clone_end=3 /gb=AA874990 /gi=2979938 /ug=Rn.3493 /len=570		

Table 2.

AA875032	11286	No Rat Protein Found.		AA579711	11287	No Human Protein Found.		91.96	EST(not recognised)		rc_AA875032 UI-R-E0-cb-h-09-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cb-h-09-0-UI /clone_end=3 /gb=AA875032 /gi=2979980 /ug=Rn.3212 /len=563		
AA875059	11288	No Rat Protein Found.		R67025	11289	No Human Protein Found.		92.91	EST(not recognised)		rc_AA875059 UI-R-E0-cb-f-04-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cb-f-04-0-UI /clone_end=3 /gb=AA875059 /gi=2980007 /ug=Rn.3224 /len=490		
AA875090	11290	No Rat Protein Found.		NM_017595	11291	NP_060065	11292	90	I-kappa-B-interacting Ras-like protein 2		rc_AA875090 UI-R-E0-cf-g-01-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cf-g-01-0-UI /clone_end=3 /gb=AA875090 /gi=2980038 /ug=Rn.15038 /len=481		
AA875121	11293	Q62725	11294	AK055329	11295	A56356		95.41	CCAAT binding factor of CBF-C/NFY C		rc_AA875121 UI-R-E0-bu-b-06-0-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bu-b-06-0-UI /clone_end=3 /gb=AA875121 /gi=2980069 /ug=Rn.1457 /len=573	Nuclear.	Nuclear transcription factor Y subunit gamma (NF-Y protein chain C)(Nuclear factor YC) (NF-YC) (CCAAT-binding transcription factorsubunit C) (CBF-C).
AA875171	11296	No Rat Protein Found.		NM_032520	11297	NP_115909	11298	64	ESTs, Weakly similar to T45062 hypothetical protein c316G12.3 [H.sapiens]		rc_AA875171 UI-R-E0-ce-f-12-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ce-f-12-0-UI /clone_end=3 /gb=AA875171 /gi=2980119 /ug=Rn.2814 /len=458		
AA875205	11299	No Rat Protein Found.		BC007892	11300	P55884	11301	93.48	ESTs, Highly similar to EUKARYOTIC TRANSLATION INITIATION FACTOR 3 SUBUNIT 9 [H.sapiens]		rc_AA875205 UI-R-E0-cu-d-11-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cu-d-11-0-UI /clone_end=3 /gb=AA875205 /gi=2980153 /ug=Rn.2829 /len=542		

Table 2.

AA875263	11302	No Rat Protein Found.		AF015308	11303	g3201964	11304	90.45	ESTs, Highly similar to cell cycle-regulated factor p78 [H.sapiens]		rc_AA875263 UI-R-E0-ce-a-08-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ce-a-08-0-UI /clone_end=3 /gb=AA875263 /gi=2980211 /ug=Rn.2727 /len=452		
AA875275	11305	No Rat Protein Found.		AA761673	11306	No Human Protein Found.		87.5	EST(not recognised)		rc_AA875275 UI-R-E0-ce-c-01-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ce-c-01-0-UI /clone_end=3 /gb=AA875275 /gi=2980223 /ug=Rn.24936 /len=535		
AA875288	11307	No Rat Protein Found.		AI807080	11308	No Human Protein Found.		89.79	EST(not recognised)		rc_AA875288 UI-R-E0-ce-d-10-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ce-d-10-0-UI /clone_end=3 /gb=AA875288 /gi=2980236 /ug=Rn.2791 /len=480		
AA875316	11309	No Rat Protein Found.		AI267376	11310	No Human Protein Found.		91.34	EST(not recognised)		rc_AA875316 UI-R-E0-cn-g-04-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cn-g-04-0-UI /clone_end=3 /gb=AA875316 /gi=2980264 /ug=Rn.2877 /len=450		
AA875348	11311	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA875348 UI-R-E0-co-b-06-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-co-b-06-0-UI /clone_end=3 /gb=AA875348 /gi=2980296 /ug=Rn.2887 /len=455		
AA875511	11312	No Rat Protein Found.		BF980184	11313	No Human Protein Found.		93.27	EST(not recognised)		rc_AA875511 UI-R-E0-ct-c-10-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ct-c-10-0-UI /clone_end=3 /gb=AA875511 /gi=2980459 /ug=Rn.2940 /len=376		
AA875559	11314	No Rat Protein Found.		AL117499	11315	No Human Protein Found.		98.98	EST (RIKEN cDNA)		rc_AA875559 UI-R-E0-cm-b-02-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cm-b-02-0-UI /clone_end=3 /gb=AA875559 /gi=2980507 /ug=Rn.2370 /len=465		
X77209	11316	CAA54424	11317	XM_004187		XP_004187		88	Heat shock protein 70	AA875620	rc_AA875620 UI-R-E0-cv-d-12-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cv-d-12-0-UI /clone_end=3 /gb=AA875620 /gi=2980568 /ug=Rn.2978 /len=387		
AA891311	11318	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA891311 EST195114 Rattus norvegicus cDNA, 3 end /clone=RHEAS32 /clone_end=3 /gb=AA891311 /gi=3018190 /ug=Rn.7739 /len=453		

Table 2.

AA8913 14	11319	No Rat Protein Found.		AF176330	11320	P57723	11321	87	alphaCP-4 (PCBP4)		rc_AA891314 EST195117 Rattus norvegicus cDNA, 3' end /clone=RHEAS38 /clone_end=3 /gb=AA891314 /gi=3018193 /ug=Rn.2683 /len=442		
AA8915 78	11322	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA891578 EST195381 Rattus norvegicus cDNA, 3' end /clone=RKIAE19 /clone_end=3 /gb=AA891578 /gi=3018457 /ug=Rn.19937 /len=410		
AA8915 80	11323	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA891580 EST195383 Rattus norvegicus cDNA, 3' end /clone=RKIAE21 /clone_end=3 /gb=AA891580 /gi=3018459 /ug=Rn.22698 /len=486		
AF2623 20	11324	Q9JM5 3	11325	AV651040	11326	XP_029 519		92.48	Programmed cell death 8 (apoptosis- inducing factor)	AA891591	rc_AA891591 EST195394 Rattus norvegicus cDNA, 3' end /clone=RKIAE33 /clone_end=3 /gb=AA891591 /gi=3018470 /ug=Rn.8124 /len=398	Mitochondrial intermembra ne space. TRANSLOC ATED TO THE NUCLEUS UPON INDUCTION OF APOPTOSIS	Programmed cell death protein 8, mitochondrial precursor (EC 1. .-.)(Apoptosis- inducing factor).
NM_01 3006	11327	NP_037 138	11328	BE018412	11329	NP_006 321	11330	92.42	Lysophospholi pase	AA891633	rc_AA891633 EST195436 Rattus norvegicus cDNA, 3' end /clone=RKIAE86 /clone_end=3 /gb=AA891633 /gi=3018512 /ug=Rn.14699 /len=214		
AA8917 13	11331	P35427	11332	AA093491	11333	P52790	11334	90.32	Hexokinase 3		rc_AA891713 EST195516 Rattus norvegicus cDNA, 3' end /clone=RKIAF86 /clone_end=3 /gb=AA891713 /gi=3018592 /ug=Rn.3567 /len=450		60S ribosomal protein L13a.
NM_03 1777	11335	NP_113 965	11336	X55666	11337	P22415	11338	86	ESTs, Highly similar to USF1 MOUSE UPSTREAM STIMULATOR Y FACTOR 1 [M.musculus] (19 on d.s.)	AA891717	rc_AA891717 EST195520 Rattus norvegicus cDNA, 3' end /clone=RKIAF90 /clone_end=3 /gb=AA891717 /gi=3018596 /ug=Rn.10845 /len=435		

Table 2.

AA891802	11339	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA891802 EST195605 Rattus norvegicus cDNA, 3' end /clone=RKIAH01 /clone_end=3 /gb=AA891802 /gi=3018681 /ug=Rn.8316 /len=648				NAD(P) transhydrogenase, mitochondrial precursor (EC 1.6.1.2)(Pyridine nucleotide transhydrogenase).
AA891821	11340	No Rat Protein Found.		AF070638		AAH01393	11341	11342	92.79	EST (human hypothetical protein, clone MGC:782 IMAGE:30513 97)		rc_AA891821 EST195624 Rattus norvegicus cDNA, 3' end /clone=RKIAH25 /clone_end=3 /gb=AA891821 /gi=3018700 /ug=Rn.8111 /len=646			
AA891839	11343	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (RIKEN cDNA)		rc_AA891839 EST195642 Rattus norvegicus cDNA, 3' end /clone=RKIAH45 /clone_end=3 /gb=AA891839 /gi=3018718 /ug=Rn.1787 /len=620				
AA891842	11344	No Rat Protein Found.		BC005192		AAF64274	11345	11346	89.52	BM-018		rc_AA891842 EST195645 Rattus norvegicus cDNA, 3' end /clone=RKIAH53 /clone_end=3 /gb=AA891842 /gi=3018721 /ug=Rn.14714 /len=591			
Z49204	11347	Q61941	11348	Z50101		Q13423	11349	11350	86	ESTs, Highly similar to NAD(P) TRANSHYDR OGENASE, MITOCHOND RIAL PRECURSOR [M.musculus]	AA891872	rc_AA891872 EST195675 Rattus norvegicus cDNA, 3' end /clone=RKIAH93 /clone_end=3 /gb=AA891872 /gi=3018751 /ug=Rn.3128 /len=614	OUTSIDE THE MITOCHON DRIAL INNER MEMBRANE ON THE MATRIX SIDE .		
AA891911	11351	Q63532	11352			g685073			85.85	Small proline-rich protein gene		rc_AA891911 EST195714 Rattus norvegicus cDNA, 3' end /clone=RKIAI48 /clone_end=3 /gb=AA891911 /gi=3018790 /ug=Rn.14720 /len=383			
AY026068	11353	AAK11717	11354	BC000946		P06749	11355	11356	94.72	ESTs, Highly similar to TRANSFORM ING PROTEIN RHOC [M.musculus]	AA891940	rc_AA891940 EST195743 Rattus norvegicus cDNA, 3' end /clone=RKIAI82 /clone_end=3 /gb=AA891940 /gi=3018819 /ug=Rn.3508 /len=523			

Table 2.

BC005419	11357	AAH05419	11358	No Human		No Human Protein Found.		Mus musculus, Similar to interferon- γ induced GTPase	AA891944	rc_AA891944 EST195747 Rattus norvegicus cDNA, 3' end /clone=RKIAI87 /clone_end=3 /gb=AA891944 /gi=3018823 /ug=Rn.8128 /len=605		
AA891962	11359	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		RIKEN full-length cDNA mouse		rc_AA891962 EST195765 Rattus norvegicus cDNA, 3' end /clone=RKIAK10 /clone_end=3 /gb=AA891962 /gi=3018841 /ug=Rn.14723 /len=244		
AA892083	11360	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA892083 EST195886 Rattus norvegicus cDNA, 3' end /clone=RKIAM16 /clone_end=3 /gb=AA892083 /gi=3018962 /ug=Rn.8130 /len=489		
AA892132	11361	No Rat Protein Found.		NIM_018467	11362	AAH08455	11363	Uncharacterized hematopoietic stem/progenitor cells protein MDS032		rc_AA892132 EST195935 Rattus norvegicus cDNA, 3' end /clone=RKIAM73 /clone_end=3 /gb=AA892132 /gi=3019011 /ug=Rn.2957 /len=490		
AA892149	11364	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA892149 EST195952 Rattus norvegicus cDNA, 3' end /clone=RKIAM93 /clone_end=3 /gb=AA892149 /gi=3019028 /ug=Rn.22240 /len=486		
AA892154	11365	NP_037292	11366	NIM_006454	11367	Q14582	11368	Mad4 homolog (human)		rc_AA892154 EST195957 Rattus norvegicus cDNA, 3' end /clone=RKIAN02 /clone_end=3 /gb=AA892154 /gi=3019033 /ug=Rn.3279 /len=386		
AA892257	11369	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST (slight homology to human aryl hydrocarbon receptor)		rc_AA892257 EST196060 Rattus norvegicus cDNA, 3' end /clone=RKIAO27 /clone_end=3 /gb=AA892257 /gi=3019136 /ug=Rn.22718 /len=604		
NM_012591	11370	P23570	11371	X14454	11372	P10914	11373	ESTs, Highly similar to INTERFERON CONSENSUS SEQUENCE BINDING PROTEIN [M.musculus]	AA892259	rc_AA892259 EST196062 Rattus norvegicus cDNA, 3' end /clone=RKIAO29 /clone_end=3 /gb=AA892259 /gi=3019138 /ug=Rn.3765 /len=625	Nuclear.	Interferon regulatory factor 1 (IRF-1).

Table 2.

AA8922 71	11374	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (mouse chromosome)		rc_AA892271 EST196074 Rattus norvegicus cDNA, 3 end /clone=RKIAO45 /clone_end=3 /gb=AA892271 /gi=3019150 /ug=Rn.3767 /len=665		
AA8922 73	11375	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA892273 EST196076 Rattus norvegicus cDNA, 3 end /clone=RKIAO47 /clone_end=3 /gb=AA892273 /gi=3019152 /ug=Rn.19941 /len=529		
AF3211 30	11376	AAK111 83	11377	U31814	11378	Q92769	11379	92.12	Histone deacetylase 2	AA892297	rc_AA892297 EST196100 Rattus norvegicus cDNA, 3 end /clone=RKIAO73 /clone_end=3 /gb=AA892297 /gi=3019176 /ug=Rn.1797 /len=640		
AA8922 98	11380	CSRTA	11381	AF251049	11382	S64705	11383	95.29	ESTs, Weakly similar to PEPTIDYL- PROLYL CIS- TRANS ISOMERASE A [R.norvegicus]		rc_AA892298 EST196101 Rattus norvegicus cDNA, 3 end /clone=RKIAO74 /clone_end=3 /gb=AA892298 /gi=3019177 /ug=Rn.14747 /len=601		
AA8922 99	11384	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA892299 EST196102 Rattus norvegicus cDNA, 3 end /clone=RKIAO75 /clone_end=3 /gb=AA892299 /gi=3019178 /ug=Rn.1708 /len=665		
AF3298 27	11385	AAK321 42	11386	BC012596	11387	O15509	11388	88.62	Zyxin	AA892332	rc_AA892332 EST196135 Rattus norvegicus cDNA, 3 end /clone=RKIAPI8 /clone_end=3 /gb=AA892332 /gi=3019211 /ug=Rn.14750 /len=191		
AA8923 90	11389	O54902	11390	AB004857	11391	P49281	11392	89.74	Solute carrier family 11 member 2 (natural resistance- associated macrophage protein 2)		rc_AA892390 EST196193 Rattus norvegicus cDNA, 3 end /clone=RKIAPI83 /clone_end=3 /gb=AA892390 /gi=3019269 /ug=Rn.3557 /len=501	Integral membrane protein .	Natural resistance- associated macrophage protein 2 (NRAMP 2) (Metalion transporter DCT1).
AA8923 94	11393	No Rat Protein Found.		AK057016	11394	No Human Protein Found.		100	EST(not recognised)		rc_AA892394 EST196197 Rattus norvegicus cDNA, 3 end /clone=RKIAPI90 /clone_end=3 /gb=AA892394 /gi=3019273 /ug=Rn.4183 /len=609		

Table 2.

AA8924 14	11395	AAF143 45	11396	AF047033	11397	AAD383 22	11398	85	Sodium bicarbonate cotransporter 3 (SLC4A7)		rc_AA892414 EST196217 Rattus norvegicus cDNA, 3' end /clone=RKIAQ16 /clone_end=3 /gb=AA892414 /gi=3019293 /ug=Rn.25345 /len=448		
AA8924 86	11399	A36690		Y00839	11400	A32609	11401	79	ESTs, Weakly similar to A36690 sucrose alpha- glucosidase [R.norvegicus]		rc_AA892486 EST196289 Rattus norvegicus cDNA, 3' end /clone=RKIAS04 /clone_end=3 /gb=AA892486 /gi=3019365 /ug=Rn.1112 /len=555		
NIM_01 9793	11402	Q9QY3 3	11403	AAF08362		O60637	11404	94	Mus musculus transmembran e 4 superfamily member 8	AA892498	rc_AA892498 EST196301 Rattus norvegicus cDNA, 3' end /clone=RKIAS19 /clone_end=3 /gb=AA892498 /gi=3019377 /ug=Rn.998 /len=617	Integral membrane protein .	Transmembrane 4 superfamily, member 8 (Tetraspanin 3) (Tspan- 3)(Tetraspanin TM4-A) (OSP- associated protein-1) (OAP- 1).
AA8925 20	11405	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA892520 EST196323 Rattus norvegicus cDNA, 3' end /clone=RKIAS43 /clone_end=3 /gb=AA892520 /gi=3019399 /ug=Rn.9118 /len=547		
AA8925 31	11406	B39066		AL136746	11407	PIHUB6	11408	94.78	ESTs, Weakly similar to B39066 proline-rich protein 15 - rat [R.norvegicus]		rc_AA892531 EST196334 Rattus norvegicus cDNA, 3' end /clone=RKIAS55 /clone_end=3 /gb=AA892531 /gi=3019410 /ug=Rn.23798 /len=559		
AA8925 48	11409	P02551	11410	X01703	11411	A23035		100	Alpha-tubulin (26 on d.s.)		rc_AA892548 EST196351 Rattus norvegicus cDNA, 3' end /clone=RKIAS73 /clone_end=3 /gb=AA892548 /gi=3019427 /ug=Rn.14764 /len=618		Tubulin alpha-1 chain.

Table 2.

AA8925 50	11412	No Rat Protein Found.		AK024048	11413	No Human Protein Found.	11414	92.96	EST(not recognised)		rc_AA892550 EST196353 Rattus norvegicus cDNA, 3' end /clone=RKIAS75 /clone_end=3 /gb=AA892550 /gi=3019429 /ug=Rn.4284 /len=566		
AA8927 59	11415	1SFC		Y09568	11416	O00161	11417	90.64	Synaptosomal- associated protein, 23 kD		rc_AA892759 EST196562 Rattus norvegicus cDNA, 3' end /clone=RKIAW89 /clone_end=3 /gb=AA892759 /gi=3019638 /ug=Rn.14789 /len=467		
AA8927 74	11418	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA892774 EST196577 Rattus norvegicus cDNA, 3' end /clone=RKIAW17 /clone_end=3 /gb=AA892774 /gi=3019653 /ug=Rn.14792 /len=635		
NM_01 2771	11419	NP_036 903	11420	NM_0002 39	11421	P00695	11422	66	Lysozyme	AA892775	rc_AA892775 EST196578 Rattus norvegicus cDNA, 3' end /clone=RKIAW18 /clone_end=3 /gb=AA892775 /gi=3019654 /ug=Rn.2283 /len=711		
AA8928 01	11423	P05197	11424	M19997	11425	P13639	11426	99	Eukaryotic translation elongation factor 2		rc_AA892801 EST196604 Rattus norvegicus cDNA, 3' end /clone=RKIAW44 /clone_end=3 /gb=AA892801 /gi=3019680 /ug=Rn.3610 /len=528		Cytoplasmic.
AA8928 18	11427	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA892818 EST196621 Rattus norvegicus cDNA, 3' end /clone=RKIAW63 /clone_end=3 /gb=AA892818 /gi=3019697 /ug=Rn.14795 /len=543		Elongation factor 2 (EF-2).
AA8928 20	11428	S70642		AB007899	11429	BAA237 11	11430	58	ESTs, Weakly similar to S70642 ubiquitin ligase Nedd4 - rat [R.norvegicus]		rc_AA892820 EST196623 Rattus norvegicus cDNA, 3' end /clone=RKIAW65 /clone_end=3 /gb=AA892820 /gi=3019699 /ug=Rn.1761 /len=590		
AA8928 35	11431	No Rat Protein Found.		AK027582	11432	JC1235		93.82	ESTs, Moderately similar to TRANSCRIPT ION FACTOR BTF3 [M.musculus]		rc_AA892835 EST196638 Rattus norvegicus cDNA, 3' end /clone=RKIAW82 /clone_end=3 /gb=AA892835 /gi=3019714 /ug=Rn.3613 /len=570		

Table 2.

AA8928 54	11433	No Rat Protein Found.		AF044197	11434	O43927	11435	40	ESTs, Weakly similar to B LYMPHOCYT E CHEMOATTR ACTANT PRECURSOR [M.musculus]		rc_AA892854 EST196657 Rattus norvegicus cDNA, 3' end /clone=RK1AY12 /clone_end=3 /gb=AA892854 /gi=3019733 /ug=Rn.6917 /len=591		
AA8928 68	11436	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA892868 EST196671 Rattus norvegicus cDNA, 3' end /clone=RK1AY30 /clone_end=3 /gb=AA892868 /gi=3019747 /ug=Rn.14797 /len=528		
AA8928 95	11437	P11174	11438	AA434279	11439	R3HU15	11440	93.45	Ribosomal protein S15		rc_AA892895 EST196698 Rattus norvegicus cDNA, 3' end /clone=RK1AY64 /clone_end=3 /gb=AA892895 /gi=3019774 /ug=Rn.3391 /len=508		40S ribosomal protein S15 (RIG protein).
AA8928 97	11441	2E+06		XM_00284 4	11442	XP_002 844	11443	67	Homo sapiens procollagen- lysine		rc_AA892897 EST196700 Rattus norvegicus cDNA, 3' end /clone=RK1AY67 /clone_end=3 /gb=AA892897 /gi=3019776 /ug=Rn.12945 /len=553		
AA8929 59	11444	No Rat Protein Found.		AY026508	11445	No Human Protein Found.	11446	87.89	Mus musculus 10 days embryo cDNA, RIKEN		rc_AA892959 EST196762 Rattus norvegicus cDNA, 3' end /clone=RK1BA36 /clone_end=3 /gb=AA892959 /gi=3019838 /ug=Rn.19446 /len=454		
AK0181 58	11447	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			RIKEN full- length cDNA mouse	AA892967	rc_AA892967 EST196770 Rattus norvegicus cDNA, 3' end /clone=RK1BA44 /clone_end=3 /gb=AA892967 /gi=3019846 /ug=Rn.1936 /len=379		
BC0038 47	11448	AAH03 847	11449	AB024518	11450	BAA758 92	11451	51	(EST) Similar to glycogenin 2 [Mus musculus]	AA892986	rc_AA892986 EST196789 Rattus norvegicus cDNA, 3' end /clone=RK1BA73 /clone_end=3 /gb=AA892986 /gi=3019865 /ug=Rn.1927 /len=472		
AA8929 93	11452	AAF667 08	11453	XM_04764 1		XP_047 641		73	Mus musculus HMG domain protein HMGX2 (Hmgx2)	AA892993	rc_AA892993 EST196796 Rattus norvegicus cDNA, 3' end /clone=RK1BA82 /clone_end=3 /gb=AA892993 /gi=3019872 /ug=Rn.12892 /len=496		

Table 2.

AA8929 99	11454	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA892999 EST196802 Rattus norvegicus cDNA, 3' end /clone=RKIBA90 /clone_end=3 /gb=AA892999 /gi=3019878 /ug=Rn.13463 /len=465		
AA8930 40	11455	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA893040 EST196843 Rattus norvegicus cDNA, 3' end /clone=RKIBB41 /clone_end=3 /gb=AA893040 /gi=3019919 /ug=Rn.13467 /len=414		
AA8931 60	11456	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA893160 EST196963 Rattus norvegicus cDNA, 3' end /clone=RKIBC91 /clone_end=3 /gb=AA893160 /gi=3020039 /ug=Rn.13480 /len=493		
AA8931 83	11457	No Rat Protein Found.	No human homolog found.		S57447	11458	63	ESTs, Weakly similar to S57447 HPBR11-7 protein [H.sapiens]		rc_AA893183 EST196986 Rattus norvegicus cDNA, 3' end /clone=RKIBD25 /clone_end=3 /gb=AA893183 /gi=3020062 /ug=Rn.24460 /len=491		
NP_031 434		NM_00 7408	NM_0011 22	11459	Q99541	11460	76	ESTs, Moderately similar to ADIPOSE DIFFERENTI ATION- RELATED PROTEIN [M.musculus]	AA893280	rc_AA893280 EST197083 Rattus norvegicus cDNA, 3' end /clone=RKIBE43 /clone_end=3 /gb=AA893280 /gi=3020159 /ug=Rn.3182 /len=480		
AA8933 20	11461	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA893320 EST197123 Rattus norvegicus cDNA, 3' end /clone=RKIBF04 /clone_end=3 /gb=AA893320 /gi=3020199 /ug=Rn.13340 /len=370		
AA8933 53	11462	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			ESTs, Weakly similar to T15946 hypothetical protein F01F1.9 [C.elegans]		rc_AA893353 EST197156 Rattus norvegicus cDNA, 3' end /clone=RKIBF40 /clone_end=3 /gb=AA893353 /gi=3020232 /ug=Rn.3051 /len=348		
AA8933 57	11463	No Rat Protein Found.	BF980403	11464	No Human Protein Found.		92.66	EST(not recognised)		rc_AA893357 EST197160 Rattus norvegicus cDNA, 3' end /clone=RKIBF44 /clone_end=3 /gb=AA893357 /gi=3020236 /ug=Rn.19948 /len=434		

Table 2.

AF1690 33	11465	AAF127 56	11466	XM_00949 4	11467	XP_009 494	11468	85	Protein kinase (Sgk2)	AA893436	rc_AA893436 EST197239 Rattus norvegicus cDNA, 3 end /clone=RLIAB44 /clone_end=3 /gb=AA893436 /gi=3020315 /ug=Rn.3685 /len=452		
AA8936 41	11469	Q9QXQ 7	11470	AL390088	11471	P41221	11472	89.05	ESTs, Highly similar to WNT-5A PROTEIN PRECURSOR [R.norvegicus]		rc_AA893641 EST197444 Rattus norvegicus cDNA, 3 end /clone=RPLAC90 /clone_end=3 /gb=AA893641 /gi=3020520 /ug=Rn.3699 /len=508		
AA8936 62	11473	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA893662 EST197465 Rattus norvegicus cDNA, 3 end /clone=RPLAI16 /clone_end=3 /gb=AA893662 /gi=3020541 /ug=Rn.14817 /len=457		
AA8936 91	11474	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognised)		rc_AA893691 EST197494 Rattus norvegicus cDNA, 3 end /clone=RPLAI48 /clone_end=3 /gb=AA893691 /gi=3020570 /ug=Rn.14822 /len=475		
AA8937 33	11475	S40148		M34480	11476	P08514	11477	86.86	ESTs, Weakly similar to S40148 integrin alpha- 7A chain - rat [R.norvegicus]		rc_AA893733 EST197536 Rattus norvegicus cDNA, 3 end /clone=RPLAK02 /clone_end=3 /gb=AA893733 /gi=3020612 /ug=Rn.14827 /len=400		
AA8937 43	11478	No Rat Protein Found.		A1092788	11479	P04541	11480	89.32	EST(not recognised)		rc_AA893743 EST197546 Rattus norvegicus cDNA, 3 end /clone=RPLAK14 /clone_end=3 /gb=AA893743 /gi=3020622 /ug=Rn.8002 /len=520		
AK0183 49	11481	Q61686	11482	L07515	11483	P45973	11484	94	ESTs, Highly similar to CBX5 CHROMOBO X PROTEIN HOMOLOG 5 [M.musculus]	AA893788	rc_AA893788 EST197591 Rattus norvegicus cDNA, 3 end /clone=RPLAK59 /clone_end=3 /gb=AA893788 /gi=3020667 /ug=Rn.18377 /len=440	Nuclear .	Chromobox protein homolog 5 (Heterochromati n protein 1 homolog alpha)(HP1 alpha).
AK0144 49	11485	BAB293 59	11486	NM_0182 02	11487	NP_060 672	11488	98	RIKEN full- length cDNA (mouse)	AA893811	rc_AA893811 EST197614 Rattus norvegicus cDNA, 3 end /clone=RPLAK87 /clone_end=3 /gb=AA893811 /gi=3020690 /ug=Rn.14832 /len=464		

Table 2.

AA8938 69	11489	No Rat Protein Found.		No human homolog found.		No	Human Protein Found.			ESTs, Weakly similar to T16084 hypothetical protein F16H11.1 [C.elegans]		rc_AA893869 EST197672 Rattus norvegicus cDNA, 3' end /clone=RPLAM85 /clone_end=3 /gb=AA893869 /gi=3020748 /ug=Rn.14614 /len=451		
AA8938 70	11490	No Rat Protein Found.		M11167	11491	No	Human Protein Found.		95	28S ribosomal RNA gene (2 on d.s.)		rc_AA893870 EST197673 Rattus norvegicus cDNA, 3' end /clone=RPLAM86 /clone_end=3 /gb=AA893870 /gi=3020749 /ug=Rn.11229 /len=417		
AA8939 80	11492	No Rat Protein Found.		AL050155	11493	No	Human Protein Found.		90.59	EST(not recognised)		rc_AA893980 EST197783 Rattus norvegicus cDNA, 3' end /clone=RPLAO19 /clone_end=3 /gb=AA893980 /gi=3020859 /ug=Rn.7498 /len=484		
AA8939 84	11494	No Rat Protein Found.		NM_0307 78	11495	XP_029 757		11496	93.8	Homo Sapiens hypothetical protein PRO1331		rc_AA893984 EST197787 Rattus norvegicus cDNA, 3' end /clone=RPLAO23 /clone_end=3 /gb=AA893984 /gi=3020863 /ug=Rn.21426 /len=443		
AA8940 29	11497	No Rat Protein Found.		No human homolog found.		No	Human Protein Found.			EST(not recognised)		rc_AA894029 EST197832 Rattus norvegicus cDNA, 3' end /clone=RPLAO74 /clone_end=3 /gb=AA894029 /gi=3020908 /ug=Rn.13512 /len=498		
AA8941 48	11498	No Rat Protein Found.		No human homolog found.		No	Human Protein Found.			Mixed cDNA - Apolipoprotein A-IV / 28S ribosomal RNA		rc_AA894148 EST197951 Rattus norvegicus cDNA, 3' end /clone=RSPAR57 /clone_end=3 /gb=AA894148 /gi=3021027 /ug=Rn.15739 /len=447		
AA8941 68	11499	No Rat Protein Found.		D87685	11500	AAF212 92		11501	94.67	PHD finger protein 3 (PHF3)		rc_AA894168 EST197971 Rattus norvegicus cDNA, 3' end /clone=RSPAR89 /clone_end=3 /gb=AA894168 /gi=3021047 /ug=Rn.25343 /len=426		
AA8941 99	11502	No Rat Protein Found.		No human homolog found.		No	Human Protein Found.			EST		rc_AA894199 EST198002 Rattus norvegicus cDNA, 3' end /clone=RSPAS58 /clone_end=3 /gb=AA894199 /gi=3021078 /ug=Rn.22765 /len=555		

Table 2.

AF2024 53	11503	AAF175 74	11504	AF079564	11505	O75604	11506	90.59	ESTs, Moderately similar to UBIQUITIN CARBOXYL- TERMINAL HYDROLASE 18 (UBIQUITIN- SPECIFIC PROCESSIN G PROTEASE 18) [M.musculus]	AA894207	rc_AA894207 EST198010 Rattus norvegicus cDNA, 3 end /clone=RSPAS77 /clone_end=3 /gb=AA894207 /gi=3021086 /ug=Rn.806 /len=630		
AA8942 82	11507	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA894282 EST198085 Rattus norvegicus cDNA, 3 end /clone=RSPAU66 /clone_end=3 /gb=AA894282 /gi=3021161 /ug=Rn.3995 /len=552		
AA8942 92	11508	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA894292 EST198095 Rattus norvegicus cDNA, 3 end /clone=RSPAW06 /clone_end=3 /gb=AA894292 /gi=3021171 /ug=Rn.19450 /len=599		
NM_01 7033	11509	P38652	11510	BC019920	11511	P36871	11512	89.84	phosphoglucose mutase 1	AA894296	rc_AA894296 EST198099 Rattus norvegicus cDNA, 3 end /clone=RSPAW17 /clone_end=3 /gb=AA894296 /gi=3021175 /ug=Rn.3760 /len=600	Cytoplasmic.	Phosphoglucose mutase (EC 5.4.2.2) (Glucose phosphomutase) (PGM).
AA8943 30	11513	P15791	11514	AF071569	11515	Q13557	11516	92.9	Ca++/calmodulin- dependent protein kinase II, delta subunit (30 on d.s.)		rc_AA894330 EST198133 Rattus norvegicus cDNA, 3 end /clone=RSPAW76 /clone_end=3 /gb=AA894330 /gi=3021209 /ug=Rn.122 /len=501		Calcium/calmodulin- dependent protein kinase type II delta chain (EC2.7.1.123) (CaM-kinase II delta chain) (CaM kinase II delta subunit)(CaMK- II delta subunit).

Table 2.

AA899253	11517	P30009	11518	AU141403	11519	P50458	11520	97.14	Myristoylated alanine-rich protein kinase C substrate		rc_AA899253 UI-R-E0-cz-g-07-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cz-g-07-0-UI /clone_end=3 /gb=AA899253 /gi=3034607 /ug=Rn.9560 /len=410		Myristoylated alanine-rich C-kinase substrate (MARCKS).
BC005796	11521	P00375	11522	X00855	11523	I37287		91	ESTs, Highly similar to DIHYDROFOLATE REDUCTASE [M.musculus]	AA900413	rc_AA900413 UI-R-E0-dle-12-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-dle-12-0-UI /clone_end=3 /gb=AA900413 /gi=3035767 /ug=Rn.15056 /len=449		Dihydrofolate reductase (EC 1.5.1.3).
AA924909	11524	P25094	11525	M94048	11526	Q01453	11527	91.3	Peripheral myelin protein		rc_AA924909 UI-R-A1-eg-b-11-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-eg-b-11-0-UI /clone_end=3 /gb=AA924909 /gi=3072045 /ug=Rn.1476 /len=557	Integral membrane protein.	Peripheral myelin protein 22 (PMP-22) (CD25 protein) (SR13 myelinprotein).
NM_031560	11528	O35186	11529	X82153	11530	P43235	11531	87.8	Cathepsin K	AA925246	rc_AA925246 UI-R-A1-eh-h-06-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-eh-h-06-0-UI /clone_end=3 /gb=AA925246 /gi=3072382 /ug=Rn.5598 /len=513		Cathepsin K precursor (EC 3.4.22.38).
AA925506	11532	P43425	11533	BC014466	11534	O60262	11535	87.25	Guanine nucleotide binding protein (G protein), gamma 7 subunit		rc_AA925506 UI-R-A1-ep-d-03-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-ep-d-03-0-UI /clone_end=3 /gb=AA925506 /gi=3072642 /ug=Rn.11335 /len=415		Guanine nucleotide-binding protein G(i)/G(s)/G(o) gamma-7 subunit.
AA925556	11536	B46132		NM_016274	11537	XP_053147		91.3	ESTs, Highly similar to B46132 c-Jun leucine zipper interactive [M.musculus]		rc_AA925556 UI-R-A1-em-h-12-0-UI.s1 UI-R-A1 Rattus norvegicus cDNA clone UI-R-A1-em-h-12-0-UI 3 similar to gi423404 pir B46132 c-Jun leucine zipper interactive (cDNA JZA-20) - mouse (fragment), mRNA sequence [Rattus norvegicus]		
X56600	11538	CAA39937	11539	XM_033941		XP_033941		76	SOD-2 gene for manganese-containing superoxide dismutase	AA926129	rc_AA926129 UI-R-A1-eg-f-08-0-UI.s1 UI-R-A1 Rattus norvegicus cDNA clone UI-R-A1-eg-f-08-0-UI 3 similar to gi157272 emb X56600 RNSOD2 Rat SOD-2 gene for manganese-containing superoxide dismutase, mRNA sequence [Rattus norvegicus]		

Table 2.

AA9262 42	11540	P19814	11541	BC008461	11542	O43493	11543	82.29	Trans-Golgi network integral membrane protein TGN38		rc_AA926242 UI-R-A1-eq-d-09-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- A1-eq-d-09-0-UI /clone_end=3 /gb=AA926242 /gi=3073378 /ug=Rn.11349 /len=394	TRANS- GOLGI NETWORK.	Trans-golgi network integral membrane protein TGN38 precursor.
AA9436 77	11544	g17633 06		AK054981	11545	g243200 0	11546	88.82	Munc13-3		rc_AA943677 EST199176 Rattus norvegicus cDNA, 3' end /clone=RBRRAN48 /clone_end=3 /gb=AA943677 /gi=3103593 /ug=Rn.11278 /len=520		
NM_02 4152	11547	P26438	11548	M57763	11549	P26438	11550	94.88	ADP- ribosylation factor 6	AA944324	rc_AA944324 EST199823 Rattus norvegicus cDNA, 3' end /clone=REMAF41 /clone_end=3 /gb=AA944324 /gi=3104240 /ug=Rn.6993 /len=559		ADP- ribosylation factor 6.
X17163	11551	CAA35 041	11552	XM_00147 2	11553	XP_001 472	11554	78	c-jun oncogene mRNA for transcription factor AP-1	AA945867	rc_AA945867 EST201366 Rattus norvegicus cDNA, 3' end /clone=RLUAW26 /clone_end=3 /gb=AA945867 /gi=3105783 /ug=Rn.7672 /len=477		
AA9463 84	11555	P21139	11556	BC010081	11557	g613629 4	11558	90.2	Endoplasmic reticulum alpha- mannosidase		rc_AA946384 EST201883 Rattus norvegicus cDNA, 3' end /clone=RLUBH49 /clone_end=3 /gb=AA946384 /gi=3106300 /ug=Rn.11301 /len=576	Endoplasmic reticulum.	Alpha- mannosidase (EC 3.2.1.24) (Alpha-D- mannoside mannohydrolas e)(AMAN).
AA9464 39	11559	P02304	11560	NM_0035 39	11561	P02304	11562	88.28	H4 gene for somatic histone H4		rc_AA946439 EST201938 Rattus norvegicus cDNA, 3' end /clone=ROVAR17 /clone_end=3 /gb=AA946439 /ug=Rn.10465 /len=663		
NM_02 1767	11563	Q63373	11564	AF064842	11565	P58400	11566	94.29	Non- processed neurexin I- beta	AA956149	rc_AA956149 UI-R-E1-fg-b-03-0-UI.s2 Rattus norvegicus cDNA, 3' end /clone=UI-R-E1-fg-b- 03-0-UI /clone_end=3 /gb=AA956149 /ug=Rn.8930 /len=471	Type I membrane protein .	Neurexin 1-beta precursor (Neurexin I- beta).

Table 2.

AA9569 41	11567	Q62655	11568	AK026674	11569	P15884	11570	92.83	R8f DNA- binding protein		rc_AA956941 UI-R-E1-fl-c-10-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-fl-c- 10-0-UI /clone_end=3 /gb=AA956941 /ug=Rn.10450 /len=492	Nuclear .	Transcription factor 4 (immunoglobuli n transcription factor 2) (ITF- 2)(RITF-2) (SL3- 3 enhancer factor 2) (SEF- 2) (Fragment).
AA9638 57	11571	P13265	11572	L47125	11573	P51654	11574	89.19	Glypican 3		rc_AA963857 UI-R-E1-gk-a-07-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E1-gk-a-07-0-UI /clone_end=3 /gb=AA963857 /ug=Rn.9717 /len=408	Attached to the membrane by a GPI- anchor.	Glypican-3 precursor (Intestinal protein OCI-5).
AI0088 52	11575	P20001	11576	AA076035	11577	P04720	11578	98.36	Eukaryotic translation elongation factor 1 alpha 2		rc_AI008852 EST203303 Rattus norvegicus cDNA, 3 end /clone=REMBE33 /clone_end=3 /gb=AI008852 /ug=Rn.965 /len=531	ANCHORED AT THE ENDOPLAS MIC RETICULUM MEMBRANE BY PHOSPHATI DYLINOSITO L VIA ETHANOLA MINE BRIDGING.	Elongation factor 1-alpha 1 (EF-1-alpha-1) (Elongation factor 1 A- 1)(eEF1A-1) (Elongation factor Tu) (EF- Tu).
AI0088 88	11579	P01041	11580	AW45114 5	11581	P04080	11582	89.36	Cystatin beta		rc_AI008888 EST203339 Rattus norvegicus cDNA, 3 end /clone=REMBE86 /clone_end=3 /gb=AI008888 /ug=Rn.1233 /len=528	Cytoplasmic.	Cystatin B (Liver thiol proteinase inhibitor) (Stefin B) (Cystatinbeta).
AI0091 47	11583	No Rat Protein Found.		AJ249980	11584	CAB965 37	11585	86	EST (human hypothetical protein)		rc_AI009147 EST203598 Rattus norvegicus cDNA, 3 end /clone=REMBJ52 /clone_end=3 /gb=AI009147 /ug=Rn.221 /len=429		
AI0091 91	11586	PT0199		M14333	11587	P06241	11588	99	Fyn proto- oncogene		rc_AI009191 EST203642 Rattus norvegicus cDNA, 3 end /clone=REMBK67 /clone_end=3 /gb=AI009191 /ug=Rn.2432 /len=484		

Table 2.

NM_02519	11589	P17475	11590	XM_028358	11591	XP_028358	11592	78	Alpha-1-protease inhibitor	AI010453	rc_AI010453 EST204904 Rattus norvegicus cDNA, 3 end /clone=RLUBZ64 /clone_end=3 /gb=AI010453 /ug=Rn.1419 /len=612	Extracellular.	Alpha-1-antiproteinase precursor (Alpha-1-antitrypsin) (Alpha-1-proteinase inhibitor).
L34078	11593	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		87	Mus musculus DNA repair protein (XRCC1) gene	AI010580	rc_AI010580 EST205031 Rattus norvegicus cDNA, 3 end /clone=RMUAO68 /clone_end=3 /gb=AI010580 /ug=Rn.13632 /len=377		
AI01275	11594	g31010		AK026295	11595	g3294180		85.83	Developmentally regulated protein mRNA		rc_AI012275 EST206726 Rattus norvegicus cDNA, 3 end /clone=RPLAU85 /clone_end=3 /gb=AI012275 /ug=Rn.4099 /len=686		
AI01295	11596	P13353	11597	J03804	11598	P05323	11599	99	Protein phosphatase 2 (formerly 2A), catalytic subunit, alpha isoform		rc_AI012595 EST207046 Rattus norvegicus cDNA, 3 end /clone=RPLAZ36 /clone_end=3 /gb=AI012595 /ug=Rn.1271 /len=641	Cytoplasmic.	Serine/threonine protein phosphatase 2A, catalytic subunit, alpha isoform (EC 3.1.3.16) (PP2A-alpha).
AF361476	11600	AAK30621	11601	U65093	11602	Q99967	11603	96.64	Transcription factor MRGB1	AI014091	rc_AI014091 EST207646 Rattus norvegicus cDNA, 3 end /clone=RSPBE78 /clone_end=3 /gb=AI014091 /ug=Rn.221 /len=608		
BC003217	11604	AAH03217	11605	No human		No Human Protein Found.			ESTs, Weakly similar to CAEEL PUTATIVE PHOSPHATIDYL SERINE DECARBOXYLASE PROENZYME [C.elegans]	AI014094	rc_AI014094 EST207649 Rattus norvegicus cDNA, 3 end /clone=RSPBE87 /clone_end=3 /gb=AI014094 /ug=Rn.221 /len=569		
AI070026	11606	P31246	11607	NM_006735	11608	O43364	11609	95.69	Homeobox gene A11		rc_AI070026 UI-R-C1-In-b-10-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-C1-In-b-10-0-UI /clone_end=3 /gb=AI070026 /ug=Rn.11240 /len=502	Nuclear.	Homeobox protein Hox-A2 (Hox-1.11).

Table 2.

AI0709 67	11610	P49911	11611	X75090	11612	P39687	11613	88	Acid nuclear phosphoprotein 32 (leucine rich)		rc_AI070967 UI-R-C2-na-d-08-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-C2-na-d-08-0-UI /clone_end=3 /gb=AI070967 /ug=Rn.10123 /len=448	Nuclear.	Leucine-rich acidic nuclear protein.
AI0712 99	11614	O08876	11615	S81439	11616	Q13118	11617	87.11	TGFB inducible early growth response		rc_AI071299 UI-R-C1-ko-d-03-0-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R-C1-ko-d-03-0-UI /clone_end=3 /gb=AI071299 /ug=Rn.2398 /len=465	Nuclear .	Transforming growth factor-beta-inducible early growth responseprotein 1 (TGFB-1 inducible early growth response protein 1) (TIEG-1)(Krueppel-like factor 10) (Zinc finger transcription factor homologCPG
AI0732 04	11618	P42655	11619	BC000179	11620	P42655	11621	99.41	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activatioprotein, epsilon polypeptide		rc_AI073204 UI-R-Y0-ix-a-09-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-Y0-ix-a-09-0-UI /clone_end=3 /gb=AI073204 /ug=Rn.4225 /len=356	Cytoplasmic.	14-3-3 protein epsilon (Mitochondrial import stimulation factor Lsubunit) (Protein kinase C inhibitor protein-1) (KCIP-1) (14-3-3E).
AI1020 31	11622	O08839	11623	U68485	11624	Q99688	11625	93.72	Amphiphysin, amph2 (22 on d.s.)		rc_AI102031 EST211320 Rattus norvegicus cDNA, 3 end /clone=RBRBY15 /clone_end=3 /gb=AI102031 /gi=3706866 /ug=Rn.17098 /len=583	Nuclear and cytoplasmic .	Myc box dependent interacting protein 1 (Bridging integrator 1)(Amphiphysin-like protein) (Amphiphysin II).

Table 2.

AI102562	11626	P02803	11627	BG260238	11628	SMHU1E		93.1	Metallothionein-1 (mt-1)		rc_AI102562 EST211851 Rattus norvegicus cDNA, 3' end /clone=REMBP28 /clone_end=3 /gb=AI102562 /gi=3707306 /ug=Rn.2714 /len=405		Metallothionein-1 (MT-1).
AI104544	11629	P04644	11630	BG498827	11631	R4HU17	11632	90.56	Ribosomal protein S17		rc_AI104544 EST213833 Rattus norvegicus cDNA, 3' end /clone=RHECE89 /clone_end=3 /gb=AI104544 /gi=3708885 /ug=Rn.6920 /len=476		40S ribosomal protein S17.
AI136891	11633	P17431	11634	AI902540	11635	O00411	11636	97.14	Butyrate response factor 1		rc_AI136891 UI-R-C2p-of-f-12-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C2p-of-f-12-0-UI /clone_end=3 /gb=AI136891 /ug=Rn.6142 /len=449	Nuclear.	Butyrate response factor 1 (TIS11B protein) (EGF-inducible proteinCMG1).
NM_031576	11637	P00388	11638	BF001401	11639	Q13571	11640	91.01	P450 (cytochrome oxidoreductase)	AI137856	rc_AI137856 UI-R-C0-ik-a-10-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C0-ik-a-10-0-UI /clone_end=3 /gb=AI137856 /ug=Rn.11359 /len=384	ENDOPLASMIC RETICULUM . ANCHORED TO THE ER MEMBRANE BY ITS N-TERMINAL HYDROPHOBIC REGION.	NADPH-cytochrome P450 reductase (EC 1.6.2.4) (CPR) (P450R).
U06179	11641	P30120	11642	XM_033879		XP_033879		76	Tissue inhibitor of metalloproteinase 1 (TIMP1) (4 on d.s.)	AI169327	rc_AI169327 EST215162 Rattus norvegicus cDNA, 3' end /clone=RKIBQ31 /clone_end=3 /gb=AI169327 /gi=3705635 /ug=Rn.6841 /len=644	Secreted.	Metalloproteinase inhibitor 1 precursor (TIMP1).
AI170379	11643	No Rat Protein Found.		AJ303079	11644	Q9Y2D5	11645	89	AKAP-2		rc_AI170379 EST216305 Rattus norvegicus cDNA, 3' end /clone=RLUCH58 /clone_end=3 /gb=AI170379 /gi=3710419 /ug=Rn.15696 /len=688		

Table 2.

AI171090	11646	P97519	11647	BC010570	11648	P35914	11649	85.73	3-hydroxy-3-methylglutaryl-CoA lyase			rc_AI171090 EST217038 Rattus norvegicus cDNA, 3' end /clone=RMUBG03 /clone_end=3 /gb=AI171090 /gi=3711130 /ug=Rn.12297 /len=551	Mitochondrial matrix.	Hydroxymethylglutaryl-CoA lyase, mitochondrial precursor (EC 4.1.3.4)(HMG-CoA lyase) (HL) (3-hydroxy-3-methylglutarate-CoA lyase).
NM_0080	11650	NP_064465	11651	BC002873	11652	AAH02873	11653	79	Nuclear protein E3-3orf1	AI171562		rc_AI171562 EST217527 Rattus norvegicus cDNA, 3' end /clone=RMUBM56 /clone_end=3 /gb=AI171562 /gi=3711602 /ug=Rn.3479 /len=436		
X17163	11654	CAA35084	11655	J04111	11656	AAA59197	11657	78	c-jun proto oncogene (JUN),	AI175959		rc_AI175959 EST219534 Rattus norvegicus cDNA, 3' end /clone=ROVBH68 /clone_end=3 /gb=AI175959 /ug=Rn.7672 /len=421		
AI176052	11658	P29411	11659	AB021870	11660	Q9UIJ7	11661	89	Adenylate kinase 3			rc_AI176052 EST219628 Rattus norvegicus cDNA, 3' end /clone=ROVBH90 /clone_end=3 /gb=AI176052 /ug=Rn.60 /len=587	Mitochondrial matrix.	GTP:AMP phosphotransferase mitochondrial (EC 2.7.4.10) (AK3).
AI176422	11662	No Rat Protein Found.				NP_004444	11663	95.07	ESTs, Highly similar to 2006241A flavoprotein ubiquinone oxidoreductase [H.sapiens]			rc_AI176422 EST220006 Rattus norvegicus cDNA, 3' end /clone=ROVBR53 /clone_end=3 /gb=AI176422 /ug=Rn.4044 /len=430		
AI176710	11664	P51179	11665	S81243	11666	Q92570	11667	93.75	Nuclear receptor subfamily 4, group A, member 3			rc_AI176710 EST220303 Rattus norvegicus cDNA, 3' end /clone=ROVBV80 /clone_end=3 /gb=AI176710 /ug=Rn.10410 /len=632	Nuclear .	Nuclear hormone receptor NOR-1 (Neuron-derived orphan receptor 1).

Table 2.

AI1771 61	11668	O54968	11669	S74017	11670	Q16236	11671	82	NF-E2-related factor 2		rc_AI177161 EST220768 Rattus norvegicus cDNA, 3' end /clone=ROVCB60 /clone_end=3 /gb=AI177161 /ug=Rn.10867 /len=616	Nuclear .	Nuclear factor erythroid 2 related factor 2 (NF-E2 related factor 2)(NFE2- related factor 2) (Nuclear factor, erythroid derived 2, like 2).
AI1773 66	11672	P49134	11673	BG222775	11674	Q14622	11675	94.64	Integrin, beta 1		rc_AI177366 EST220985 Rattus norvegicus cDNA, 3' end /clone=RPLBY20 /clone_end=3 /gb=AI177366 /ug=Rn.1832 /len=618	Type I membrane protein.	Integrin beta-1 precursor (Fibronectin receptor beta subunit)(CD29 antigen) (Integrin VLA-4 beta subunit).
AI1782 08	11676	P52591	11677	AC006014	11678	g469996 4		70	Integral membrane glycoprotein		rc_AI178208 EST221873 Rattus norvegicus cDNA, 3' end /clone=RPLCN52 /clone_end=3 /gb=AI178208 /ug=Rn.10474 /len=619	TYPE II MEMBRANE PROTEIN. NUCLEAR PORE MEMBRANE.	Nuclear envelope pore membrane protein POM 121 (Pore membrane protein of 121 kDa) (P145).
AI1789 21	11679	P35559	11680	M21188	11681	P14735	11682	89.5	Insulin degrading enzyme		rc_AI178921 EST222603 Rattus norvegicus cDNA, 3' end /clone=RSPBT27 /clone_end=3 /gb=AI178921 /ug=Rn.10988 /len=614	Cytoplasmic.	Insulin- degrading enzyme (EC 3.4.24.56) (Insulysin) (Insulinase)(Ins ulin protease).
AI1803 50	11683	g14385 34		Y18064	11684	O76024	11685	92.19	CTD-binding SR-like protein rA9		rc_AI180350 EST224094 Rattus norvegicus cDNA, 3' end /clone=RSPCV17 /clone_end=3 /gb=AI180350 /ug=Rn.10530 /len=672		

Table 2.

AI2282 47	11686	P08753	11687	J03004	11688	P04899	11689	98	Guanine nucleotide binding, protein, alpha inhibiting polypeptide 3		rc_AI228247 EST224942 Rattus norvegicus cDNA, 3' end /clone=RBRC538 /clone_end=3 /gb=AI228247 /ug=Rn.4368 /len=623		Guanine nucleotide- binding protein G(k), alpha subunit (G(i) alpha-3).
AI2284 07	11690	P13589	11691	AI039838	11692	Q99653	11693	94.12	Pituitary adenylate cyclase activating polypeptide (41 on d.s.)		rc_AI228407 EST225102 Rattus norvegicus cDNA, 3' end /clone=RBRCU35 /clone_end=3 /gb=AI228407 /ug=Rn.3399 /len=496		Pituitary adenylate cyclase activating polypeptide precursor (PACAP)[Contai ns: PACAP- related peptide (PRP-48); Pituitary adenylate cyclaseactivat ing polypeptide- 27 (PACAP-27) (PACAP27); Pituitary aden
AI2286 69	11694	P23978	11695	X54673	11696	P30531	11697	89.45	GABA transporter protein		rc_AI228669 EST225364 Rattus norvegicus cDNA, 3' end /clone=RBRCX86 /clone_end=3 /gb=AI228669 /ug=Rn.10035 /len=592	Integral membrane protein.	Sodium- and chloride- dependent GABA transporter 1.
NM_01 9191	11698	O70436	11699	U68018	11700	Q15796	11701	91.46	MAD homolog 2 (Drosophila)	AI228675	rc_AI228675 EST225370 Rattus norvegicus cDNA, 3' end /clone=RBRCX95 /clone_end=3 /gb=AI228675 /ug=Rn.2755 /len=545	IN THE CYTOPLAS M IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXE D WITH SMAD4 .	Mothers against decapentaplegic homolog 2 (SMAD 2) (Mothers againstDPP homolog 2) (Mad-related protein 2).

Table 2.

D86557	11702	BAA198 80	11703	U09578	11704	JC6094	11705	39	ESTs, Moderately similar to S78100 MAPK activated protein kinase (EC 2.7.1.-) 2 (fragment) [M.musculus]	AI239421	rc_AI229421 EST226116 Rattus norvegicus cDNA, 3' end /clone=REMG14 /clone_end=3 /gb=AI229421 /ug=Rn.8789 /len=542		
AI2301 30	11706	O35795	11707	U91510	11708	Q9Y5L3	11709	84.5	Testicular ecto ATPase		rc_AI230130 EST226825 Rattus norvegicus cDNA, 3' end /clone=REMG14 /clone_end=3 /gb=AI230130 /ug=Rn.8276 /len=440	Integral membrane protein .	Ectonucleoside triphosphate diphosphohydroly ase 2 (EC 3.6.1.3)(NTPDa se2) (Ecto- ATPase) (CD39 antigen-like 1).
AI2324 77	11710	P30670	11711	AK022537	11712	P30670	11713	94.9	G protein gamma-5 subunit		rc_AI232477 EST229165 Rattus norvegicus cDNA, 3' end /clone=RKICC15 /clone_end=3 /gb=AI232477 /ug=Rn.2695 /len=419		Guanine nucleotide- binding protein G(I)/G(S)/G(O) gamma-5 subunit.
AI2333 65	11714	No Rat Protein Found.		AW16344 4	11715	No Human Protein Found.		90.32	ESTs, Weakly similar to T24956 hypothetical protein T16G1.10 [C.elegans]		rc_AI233365 EST230053 Rattus norvegicus cDNA, 3' end /clone=RKIDE13 /clone_end=3 /gb=AI233365 /ug=Rn.23561 /len=480		
K02932	11716	P04645	11717	AF104913	11718	Q04637	11719	100	Ribosomal protein L30	AI233749	rc_AI233749 EST230437 Rattus norvegicus cDNA, 3' end /clone=RKIDJ59 /clone_end=3 /gb=AI233749 /ug=Rn.5971 /len=462		60S ribosomal protein L30.
NM_03 1668	11720	NP_113 856	11721	XM_02780 9		XP_027 809		57	MYB binding protein (P160) 1a	AI237258	rc_AI237258 EST233820 Rattus norvegicus cDNA, 3' end /clone=RPLCV74 /clone_end=3 /gb=AI237258 /ug=Rn.6881 /len=434		
AI6389 84	11722	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx00388 3', mRNA sequence [Rattus norvegicus]		

Table 2.

AI6389 85	11723	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx00148 3 , mRNA sequence [Rattus norvegicus]			
NM_03 2613	11724	NP_116 002	11725	NM_0045 43	11726	P20929	11727	65	ESTs, Moderately similar LIM AND SH3 DOMAIN PROTEIN 1 [M.musculus]	AI638986	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00108 3 , mRNA sequence [Rattus norvegicus]			
AI6390 02	11728	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx03287 3 , mRNA sequence [Rattus norvegicus]			
AI6390 19	11729	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01107 3 , mRNA sequence [Rattus norvegicus]			
AI6390 22	11730	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01427 3 , mRNA sequence [Rattus norvegicus]			
AI6390 88	11731	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx00364 3 , mRNA sequence [Rattus norvegicus]			
AI6391 32	11732	No Rat Protein Found.		BG722716	11733	No Human Protein Found.		94.5	EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01263 3 , mRNA sequence [Rattus norvegicus]			
AI6391 39	11734	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx04483 3 , mRNA sequence [Rattus norvegicus]			
AI6391 48	11735	No Rat Protein Found.		NM_0190 41	11736	O75570	11737	87.15	ESTs, Weakly similar to MITOCHOND RIAL PEPTIDE CHAIN RELEASE FACTOR 1 PRECURSOR [H.sapiens]		Rat mixed-tissue library Rattus norvegicus cDNA clone rx02422 3 , mRNA sequence [Rattus norvegicus]			

Table 2.

AF220294	11738	AAF69479	11739	No human homolog found.		No Human Protein Found.		91	EST (Mus musculus clone BAC126c8 Rsp29-like protein (Rsp29) and Als splice variant 2 (Als) genes)	AI639236	Rat mixed-tissue library Rattus norvegicus cDNA clone rz00757 3, mRNA sequence [Rattus norvegicus]		
AI639255	11740	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01039 3, mRNA sequence [Rattus norvegicus]		
AI639331	11741	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (homology with mouse BAC #AC004093)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx00676 3, mRNA sequence [Rattus norvegicus]		
AI639381	11742	No Rat Protein Found.		AL138478	11743	No Human Protein Found.		88	EST		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01495 3, mRNA sequence [Rattus norvegicus]		
AI639395	11744	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx03054 3, mRNA sequence [Rattus norvegicus]		
AI639425	11745	No Rat Protein Found.		BE792880	11746	No Human Protein Found.		85.05	EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx00313 3, mRNA sequence [Rattus norvegicus]		
AI639451	11747	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx03912 3, mRNA sequence [Rattus norvegicus]		
AY037763	11748	AAK68636	11749	XM_043612		XP_043612		67	adiponutrin	AI639525	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01430 3, mRNA sequence [Rattus norvegicus]		
H31078	11750	No Rat Protein Found.		AK025305	11751	No Human Protein Found.		90.12	EST(not recognised)		rc_H31078 EST104768 Rattus norvegicus cDNA, 3' end /clone=RPCAB15 /clone_end=3 /gb=H31078 /gi=976500 /ug=Rn.22653 /len=313		
H31313	11752	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_H31313 EST105230 Rattus norvegicus cDNA, 3' end /clone=RPCAH12 /clone_end=3 /gb=H31313 /gi=976730 /ug=Rn.18190 /len=385		

Table 2.

H31351	11753	No Rat Protein Found.		No human homolog found.		11755	No Human Protein Found.		EST(not recognised)		rc_H31351 EST105310 Rattus norvegicus cDNA, 3' end /clone=RPCAH85 /clone_end=3 /gb=H31351 /gi=976768 /ug=Rn.14564 /len=352		
H31420	11754	No Rat Protein Found.		AA845957		11757	No Human Protein Found.	85.29	EST(not recognised)		rc_H31420 EST105436 Rattus norvegicus cDNA, 3' end /clone=RPCAJ34 /clone_end=3 /gb=H31420 /gi=976837 /ug=Rn.8443 /len=312		
H31588	11756	No Rat Protein Found.		AA947174		11757	g222464 3	92.74	ESTs, Moderately similar to KIAA0351 [H.sapiens]		rc_H31588 EST105764 Rattus norvegicus cDNA, 3' end /clone=RPCAR49 /clone_end=3 /gb=H31588 /gi=977005 /ug=Rn.25545 /len=343		
H31590	11758	No Rat Protein Found.		No human homolog found.			No Human Protein Found.		EST(not recognised)		rc_H31590 EST105767 Rattus norvegicus cDNA, 3' end /clone=RPCAR52 /clone_end=3 /gb=H31590 /gi=977007 /ug=Rn.14574 /len=498		
H31802	11759	S12207		No human			No Human Protein Found.		EST, Moderately similar to S12207 hypothetical protein [M.musculus]		rc_H31802 EST106213 Rattus norvegicus cDNA, 3' end /clone=RPCAY40 /clone_end=3 /gb=H31802 /gi=977219 /ug=Rn.14594 /len=518		
H31907	11760	P97834		U20285	11761	11762	Q13098	97	R. norvegicus mRNA for mammalian fusca protein		rc_H31907 EST106452 Rattus norvegicus cDNA, 3' end /clone=RPCBC73 /clone_end=3 /gb=H31907 /gi=977324 /ug=Rn.13413 /len=336	Nuclear and cytoplasmic .	COP9 signalosome complex subunit 1 (G protein pathway suppressor 1)(GPS1 protein) (MFH protein).
H31914	11764	P13383		M60858	11765	11766	P19338	84	Nucleolin		rc_H31914 EST106462 Rattus norvegicus cDNA, 3' end /clone=RPCBC88 /clone_end=3 /gb=H31914 /gi=977331 /ug=Rn.23826 /len=397		
S79169	11768	AAB349 38		NIM_0036 29	11769	11770	Q92569	93	Mouse p55PIK=phosphatidylinositol 3-kinase regulatory subunit	H33636	rc_H33636 EST109819 Rattus norvegicus cDNA, 3' end /clone=RPNAV07 /clone_end=3 /gb=H33636 /gi=979053 /ug=Rn.14653 /len=411		

Table 2.

H33651	11772	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST109846 PC-12 cells, NGF-treated (9 days)		rc_H33651 EST109846 Rattus norvegicus cDNA, 3' end /clone=RPNAV67 /clone_end=3 /gb=H33651 /gi=979068 /ug=Rn.14654 /len=447		
H33660	11773	No Rat Protein Found.		AK058044	11774	No Human Protein Found.	11775	EST(not recognised)		rc_H33660 EST109859 Rattus norvegicus cDNA, 3' end /clone=RPNAW03 /clone_end=3 /gb=H33660 /gi=979077 /ug=Rn.3331 /len=389		
S45812	11776	190315 9A		M68840	11777	P21397	11778	ESTs, Highly similar to 1903159A monoamine oxidase A [R.norvegicus]		S45812 monoamine oxidase A [rats, liver, mRNA Partial, 2104 nt]		
S48325	11779	AAB241 51	11780	XM_051310	11781	XP_051310	11782	Diabetes-inducible cytochrome P450RLM6, RLM6 (see 257 on this sheet)		S48325 diabetes-inducible cytochrome P450RLM6 [rats, liver, mRNA Partial, 1093 nt]		
S49760	11783	JC6124	11784	U51477	11785	Q13574	11786	Diacylglycerol kinase		S49760 diacylglycerol kinase [rats, brain, mRNA, 3043 nt]		
S57478	11787	LURT1	11788	X05908	11789	P04083	11790	Annexin 1 (p35) (Lipocortin 1)		S57478cds S57440S13 lipocortin I [rats, Genomic, 361 nt, segment 13 of 13]		
S59525	11791	AAB264 20	11792	NM_000406	11793	P30968	11794	Gonadotropin-releasing hormone receptor		S59525 gonadotropin-releasing hormone receptor [rats, pituitary gland, mRNA, 2256 nt]		
S67900	11795	AAB296 78	11796	XM_001408		XP_001408	92	6-phosphofructose 2-kinase/fructose biphosphatase 2		S67900 fructose 6-phosphate, 2-kinase:fructose 2,6-bisphosphatase [rats, brain, mRNA, 3591 nt]		
S71021	11797	AAB308 18	11798	X69391	11799	Q02878	11800	Malignancy-related C140 product		S71021 malignancy-related C140 product [rats, thyroid FRTL-Tc cells, mRNA Partial, 746 nt]		
S79214	11801	191715 0A		X60382	11802	Q03692	11803	Collagen alpha 1 type X		S79214cds type X collagen alpha 1 chain {NC1 domain} [rats, Genomic, 491 nt]		

Table 2.

S82579	11804	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Histamine N-tele-methyltransferase		S82579 histamine N-tele-methyltransferase {3 region, exon 4} [rats, Sprague Dawley, liver, mRNA Partial, 185 nt]		
U01344	11805	P50297	11806	U80835	11807	g2245376	11808	76	A-2 arylamine N-acetyltransferase		U01344 Rattus norvegicus clone A-2 arylamine N-acetyltransferase mRNA, complete cds /cds=(975,1847) /gb=U01344 /gi=786257 /ug=Rn.11112 /len=2533	Cytoplasmic.	Arylamine N-acetyltransferase 1 (EC 2.3.1.5) (Arylamine acetylase 1)(N-acetyltransferase type 1) (NAT-1) (AT-1).
U04835	11809	1921368A	11810	D14826	11811	XP_005813	11812	93.07	cAMP responsive element modulator		U04835 Rattus norvegicus CREMdeltaC-G gene, complete cds /cds=(8,460) /gb=U04835 /gi=1256545 /ug=Rn.10251 /len=607		
U06230	11813	I59618		M15036	11814	P07225	11815	88.41	Protein S		U06230 Rattus norvegicus protein S mRNA, partial cds /cds=(0,1040) /gb=U06230 /gi=497116 /ug=Rn.4845 /len=1589		
U09540	11816	Q64678	11817	U03688	11818	Q16678	11819	84.64	Cytochrome P450 1b1 (see 257 on this sheet)		U09540 RNU09540 Rattus norvegicus Sprague-Dawley cytochrome P450 (CYP1B1) mRNA, complete cds	Membrane-bound. Endoplasmic reticulum.	Cytochrome P450 1B1 (EC 1.14.14.1) (CYP1B1) (P450RAP).
U11685	11820	Q62685	11821	BC008819	11822	Q13133	11823	92.24	Nuclear receptor subfamily 1, group H, member 3		U11685 Rattus norvegicus orphan receptor RLD-1 (rid-1) mRNA, complete cds /cds=(24,1361) /gb=U11685 /gi=555751 /ug=Rn.11209 /len=1723	Nuclear .	Oxysterols receptor LXR-alpha (Liver X receptor alpha) (Nuclear orphanreceptor LXR-alpha) (RLD-1).
U12187	11824	P55043	11825	L24564	11826	P55042	11827	90	Ras-related protein (rad)		U12187 Rattus norvegicus ras-related protein (rad) mRNA, complete cds /cds=(258,1064) /gb=U12187 /gi=595472 /ug=Rn.11189 /len=1421		GTP-binding protein RAD (RAS) associated with diabetes (RAD1).

Table 2.

U14398	11828	P50232	11829	X96783	11830	O00445	11831	42	Synaptotagmin n 4		U14398 Rattus norvegicus synaptotagmin IV homolog mRNA, complete cds /cds=(267,1544) /gb=U14398 /gi=550453 /ug=Rn.11072 /len=2060	Integral membrane protein. Synaptic vesicles.	Synaptotagmin IV (SyIV).
U15138	11832	Q62698	11833	AF035812	11834	O43237	11835	93.97	LIC-2 dynein light intermediate chain 53/55		U15138 Rattus norvegicus LIC-2 dynein light intermediate chain 53/55 mRNA, complete cds /cds=(5,1498) /gb=U15138 /gi=619664 /ug=Rn.11100 /len=4300		Dynein light intermediate chain 2, cytosolic (LIC53/55) (LIC- 2).
U17254	11836	P22829	11837	D49728	11838	P22736	11839	91	Immediate early gene transcription factor NGFI-B		U17254 Rattus norvegicus immediate early gene transcription factor NGFI-B mRNA, complete cds /cds=(212,1903) /gb=U17254 /gi=596053 /ug=Rn.10000 /len=2488	Nuclear.	Orphan nuclear receptor HMR (Nerve growth factor induced protein 1- B)(NGFI-B) (NUR77).
U17901	11840	P54319	11841	AV720153	11842	g532686 6		92.06	Phospholipase A-2-activating protein (plap)		U17901 Rattus norvegicus phospholipase A- 2-activating protein (plap) mRNA, complete cds /cds=UNKNOWN /gb=U17901 /gi=1041680 /ug=Rn.22260 /len=2452		Phospholipase A-2-activating protein (PLAP).
U22830	11843	P49651	11844	AF018284	11845	P47900	11846	88.77	P2 purinoreceptor subclass 2Y		U22830 Rattus norvegicus P2Y purinoreceptor mRNA, complete cds /cds=(619,1740) /gb=U22830 /gi=767872 /ug=Rn.10217 /len=3204	Integral membrane protein.	P2Y purinoreceptor 1 (ATP receptor) (P2Y1) (Purinergic receptor).
U23056	11847	P16573	11848	M29540	11849	P06731	11850	86.79	Carcinoembry onic antigen- related cell adhesion molecule		U23056 Rattus norvegicus C-CAM4 mRNA, complete cds /cds=(82,510) /gb=U23056 /gi=1353245 /ug=Rn.2382 /len=678	TYPE I MEMBRANE PROTEIN CANALICUL AR DOMAIN OF HEPATOCY TE PLASMA MEMBRANE S.	Ecto-ATPase precursor (Cell- CAM 105) (C- CAM 105) (ATP- dependenttauro colate-carrier protein) (GP110).

Table 2.

U23769	11851	P52944	11852	BC000915	11853	O00151	11854	86.59	LIM protein		U23769 Rattus norvegicus CLP36 (clp36) mRNA, complete cds /cds=(66,1049) /gb=U23769 /gi=1020150 /ug=Rn.11170 /len=1392	Cytoplasmic.	PDZ and LIM domain protein 1 (LIM domain protein CLP-36) (C-terminal LIM domain protein 1) (Elfin).
U24489	11855	g13361 53		M26856	11856	g180964		70	Tenascin X		U24489 Rattus norvegicus tenascin-X mRNA, partial cds /cds=(0,614) /gb=U24489 /gi=841425 /ug=Rn.10225 /len=793		
U26310	11857	AAA676 48	11858	NM_0226 48	11859	NP_072 174	11860	97	Tensin (Tns)		U26310 RNU26310 Rattus norvegicus tensin (Tns) mRNA, partial cds		
U26356	11861	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			S100A1 gene		U26356 mRNA RNSHUNA1 Rattus norvegicus S100A1 gene, exon 1		
U27319	11862	AAC52 945	11863	NM_0001 88	11864	P19367	11865	100	Hexokinase 1		U27319 exon RNU27319 Rattus norvegicus type I hexokinase (HK1) gene, promoter region and partial cds		
U27518	11866	Q62789	11867	BG203058	11868	g328747 3		89.22	UDP-glucuronosyltransferase		U27518 Rattus norvegicus UDP-glucuronosyltransferase mRNA, complete cds /cds=(26,1618) /gb=U27518 /gi=1177817 /ug=Rn.11131 /len=1947	Microsomal.	UDP-glucuronosyltransferase 2B8 precursor, microsomal (EC 2.4.1.17) (UDPG T) (UGT2B-RH4).
U28938	11869	T14328	11870	AF187042	11871	S60613	11872	88.55	Receptor-type protein tyrosine phosphatase D30		U28938 Rattus norvegicus protein tyrosine phosphatase D30 mRNA, complete cds /cds=(62,3712) /gb=U28938 /gi=1144001 /ug=Rn.10163 /len=4871		
U31668	11873	Q62814	11874	Z78409	11875	Q15329	11876	92.64	Transcription factor E2F-5 mRNA, partial cds		U31668 Rattus norvegicus transcription factor E2F-5 mRNA, partial cds /cds=(0,904) /gb=U31668 /gi=939730 /ug=Rn.10286 /len=1496	Nuclear.	Transcription factor E2F5 (E2F-5) (Fragment).
U31866	11877	g18544 76		AK021725	11878	g339469		88.61	Rattus norvegicus Nclone10 mRNA (28 on d.s.)		U31866 Rattus norvegicus Nclone10 mRNA /cds=UNKNOWN /gb=U31866 /gi=1216376 /ug=Rn.11164 /len=2657		

Table 2.

U31880	11879	Q62818	11880	AF035280	11881	P49770	11882	92	Eukaryotic translation initiation factor 2B, subunit 2 (beta, 39kD)		U31880 Rattus norvegicus eIF-2B beta subunit mRNA, complete cds /cds=(45,1100) /gb=U31880 /gi=1143157 /ug=Rn.5910 /len=1474		Translation initiation factor eIF-2B beta subunit (eIF-2B GDP-GTPexchange factor).
U32681	11883	A57190	11884	AJ243212	11885	I38006	11886	86.17	Crp-ductin		U32681 Rattus norvegicus ebnerin mRNA, complete cds /cds=(93,3965) /gb=U32681 /gi=975346 /ug=Rn.10107 /len=4344		
NM_019284	11887	NP_062157	11888	AF059274	11889	NP_006565	11890	92.14	Chondroitin sulfate proteoglycan 5 (neuroglycan C)	U33553	U33553 Rattus norvegicus neuroglycan C precursor mRNA, complete cds /cds=(12,1646) /gb=U33553 /gi=1061328 /ug=Rn.10146 /len=2107		
U34843	11891	g1236114	11892	U27112	11893	g3551742	11894	88.12	Rattus norvegicus cell cycle progression related D123 mRNA, complete cds (13 on d.s.)		U34843 Rattus norvegicus cell cycle progression related D123 mRNA, complete cds /cds=(53,1063) /gb=U34843 /gi=1236113 /ug=Rn.11096 /len=1683		
U35371	11895	g1016012	11896	AV724042	11897	Q9NY97	11898	90.43	Neural cell adhesion protein BIG-2 precursor (BIG 2)		U35371 Rattus norvegicus neural cell adhesion protein BIG-2 precursor (BIG-2) mRNA, complete cds /cds=(418,3498) /gb=U35371 /gi=1016011 /ug=Rn.10117 /len=4609		
U35775	11899	Q62847	11900	D67031	11901	Q9JUEY8	11902	92	Adducin 3, gamma (38 on d.s.)		U35775 Rattus norvegicus gamma-adducin mRNA, complete cds /cds=(133,2148) /gb=U35775 /gi=1041239 /ug=Rn.9416 /len=2246		Gamma adducin (Adducin-like protein 70) (Protein kinase C bindingprotein 35H).

Table 2.

U39943	11903	P51590	11904	U37143	11905	P51589	11906	70	Rattus norvegicus cytochrome P450 pseudogene (CYP2J3P1) mRNA (see 257 on this sheet)		U39943 RNU39943 Rattus norvegicus cytochrome P450 monooxygenase (CYP2J3) mRNA, complete cds	Membrane-bound. Endoplasmic reticulum.	Cytochrome P450 2J3 (EC 1.14.14.1) (CYP1J3).
U44948	11907	Q62908	11908	U46006	11909	Q16527	11910	92.95	Smooth muscle cell LIM protein (SmLIM)		U44948 Rattus norvegicus smooth muscle cell LIM protein (SmLIM) mRNA, complete cds /cds=(54,635) /gb=U44948 /gi=1314350 /ug=Rn.4267 /len=847	Nuclear.	Smooth muscle cell LIM protein (Cysteine-rich protein 2) (CRP2).
U49055	11911	g1438530	11912	AB029039	11913	g5689569	11914	88.69	CTD-binding SR-like protein rA8 mRNA		U49055 Rattus norvegicus CTD-binding SR-like protein rA8 mRNA, complete cds /cds=(322,4128) /gb=U49055 /gi=1438529 /ug=Rn.10529 /len=4775		
U50736	11915	A44437	11916	BF081129	11917	A57291		93.88	Cardiac ankyrin repeat protein		U50736 RNU50736 Rattus norvegicus cardiac adriamycin responsive protein mRNA, complete cds		
U51898	11918	P97570	11919	AK001290	11920	g5305594		90.47	Ca2+-independent phospholipase A2		U51898 Rattus norvegicus Ca2+-independent phospholipase A2 mRNA, complete cds /cds=(474,2729) /gb=U51898 /gi=1743845 /ug=Rn.5941 /len=3273	Cytoplasmic.	85 kDa calcium-independent phospholipase A2 (EC 3.1.1.4) (PLA2) (Cal-PLA2) (Group VI phospholipase A2) (GVI PLA2).
U53184	11921	No Rat Protein Found.		AB034747	11922	Q99732	11923	83.41	Estrogen-responsive uterine transcript		U53184 Rattus norvegicus estrogen-responsive uterine mRNA, partial sequence /cds=UNKNOWN /gb=U53184 /gi=1279978 /ug=Rn.6940 /len=2006		

Table 2.

U53858	11924	P97571	11925	AK025380	11926	P07384	11927	93.28	Calpain 1		U53858 Rattus norvegicus mu-calpain large subunit (clis1) mRNA, complete cds /cds=(41,2182) /gb=U53858 /gi=1794202 /ug=Rn.6037 /len=2917	Cytoplasmic; Translocates to the plasma membrane upon Ca++ binding .	Calpain 1, large [catalytic] subunit (EC 3.4.22.17) (Calcium-activated neutral proteinase) (CANP) (Mu-type) (muCANP) (Micromolar-calpain).
U54632	11928	P50550	11929	U29092	11930	P50550	11931	93.2	Ubiquitin conjugating enzyme E2l		U54632 RNU54632 Rattus norvegicus ubiquitin-conjugating enzyme UbcE2A mRNA, complete cds		Ubiquitin-like protein SUMO-1 conjugating enzyme (EC 6.3.2.19) (SUMO-1-protein ligase) (Ubiquitin carrier protein) (Ubiquitin-conjugating enzyme UbcE2A) (P18).
U56862	11932	Q62981	11933	AL542378	11934	Q15072	11935	89.47	Pancreas zinc finger protein		U56862 RNU56862 Rattus norvegicus pancreas only zinc finger protein (POZF-1) mRNA, complete cds	Nuclear .	Zinc finger protein OZF (POZF-1).
U62897	11936	P15087	11937	BE552042	11938	P16870	11939	92.96	Carboxypeptidase D precursor		U62897 Rattus norvegicus carboxypeptidase D precursor (Cpd) mRNA, complete cds /cds=(45,4181) /gb=U62897 /gi=2406562 /ug=Rn.4093 /len=4377		

Table 2.

U65007	11940	P97523	11941	U11813	11942	P08581	11943	92.61	Met proto-oncogene		U65007 Rattus norvegicus hepatocyte growth factor receptor mRNA, complete cds /cds=(0,4148) /gb=U65007 /gi=1679659 /ug=Rn.10617 /len=4189	Type I membrane protein.	Hepatocyte growth factor receptor precursor (EC 2.7.1.112) (Met proto-oncogene tyrosine kinase) (c-met) (HGF-receptor) (HGF-SF receptor).
U65656	11944	P33436	11945	AU123141	11946	P05455	11947	90.29	Gelatinase A		U65656 Rattus norvegicus gelatinase A mRNA, complete cds /cds=(291,2279) /gb=U65656 /gi=1813502 /ug=Rn.6422 /len=3040		72 kDa type IV collagenase precursor (EC 3.4.24.24) (72 kDagelatinase) (Matrix metalloproteinase-2) (MMP-2) (Gelatinase A).
U67207	11948	S74225		U52912	11949	P48357	11950	87	Leptin receptor (fatty)		U67207 RNU67207 Rattus norvegicus leptin receptor (OB-R) mRNA, partial cds		
U67994	11951	AAB396 19	11952	X74330	11953	P49642	11954	90.27	Rattus norvegicus DNA primase small subunit		U67994 Rattus norvegicus DNA primase small subunit mRNA, partial cds /cds=(0,91) /gb=U67994 /gi=1763024 /ug=Rn.10649 /len=410		
U75916	11955	g18391 62		AK025185	11956	g592440 8		93.02	Zonula occludens 2 protein (ZO-2)		U75916 Rattus norvegicus zonula occludens 2 protein (ZO-2) mRNA, partial cds /cds=(0,2443) /gb=U75916 /gi=1839161 /ug=Rn.10965 /len=3329		
U76252	11957	P07314	11958	AL117414	11959	P36269	11960	87.03	Gamma-glutamyltransferase-like activity 1		U76252 RNU76252 Rattus norvegicus gamma glutamyl transpeptidase-related enzyme mRNA, partial cds		
U77829	11961	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Gas-5 growth arrest homolog		U77829mRNA RNU77829 Rattus norvegicus gas-5 growth arrest homolog non-translated mRNA sequence		

Table 2.

U82626	11962	AAB963 42	11963	NM_0054 45	11964	NP_005 436	11965	89	Chondroitin sulfate proteoglycan 6		U82626 Rattus norvegicus basement membrane-associated chondroitin proteoglycan Bamacan mRNA, complete cds /cds=(89,3664) /gb=U82626 /gi=1785539 /ug=Rn.11074 /len=4104		
U86379	11966	O55197	11967	U28488	11968	Q16581	11969	84.91	Complement component 3a receptor 1		U86379 Rattus norvegicus anaphylatoxin C3a receptor mRNA, complete cds /cds=(129,1550) /gb=U86379 /gi=3015534 /ug=Rn.9772 /len=2071	Integral membrane protein.	C3a anaphylatoxin chemotactic receptor (C3a- R) (C3AR).
U87971	11970	AAB938 44	11971	NM_0031 64	11972	Q13190	11973	95	Syntaxin 5a		U87971 RNU87971 Rattus norvegicus syntaxin 5 mRNA, partial cds		
U88036	11974	O35913	11975	U21943	11976	P46721	11977	72	Brain digoxin carrier protein		U88036 Rattus norvegicus brain digoxin carrier protein mRNA, complete cds /cds=(118,2103) /gb=U88036 /gi=2501807 /ug=Rn.5641 /len=3622	Integral membrane protein .	Sodium- independent organic anion transporter 2 (Brain digoxin carrierprotein) (Brain-specific organic anion transporter) (OATP-B1).
U88324	11978	P54311	11979	AY007113	11980	RGHUB 1	11981	95.71	Guanine nucleotide- binding protein beta		U88324 RNU88324 Rattus norvegicus G protein beta 1 subunit (rGb1) mRNA, complete cds		Guanine nucleotide- binding protein G(I)/G(S)/G(T) beta subunit 1(Transducin beta chain 1).
U88986	11982	T34258		U38545	11983	Q13393	11984	88	Phospholipase D gene 1		U88986 RNU88986 Rattus norvegicus phospholipase D 1 mRNA, partial cds		
U89743	11985	AAB498 93	11986	No human		No Human Protein Found.			Rattus norvegicus unknown protein		U89743 Rattus norvegicus unknown protein mRNA, partial cds /cds=(0,251) /gb=U89743 /gi=1890272 /ug=Rn.10718 /len=953		
U89745	11987	AAB498 95	11988	No human		No Human Protein Found.			Rattus norvegicus unknown protein		U89745 Rattus norvegicus unknown protein mRNA, partial cds /cds=(0,293) /gb=U89745 /gi=1895082 /ug=Rn.10720 /len=1114		

Table 2.

U90312	11989	O55207	11990	AL157424	11991	O15056	11992	94.07	Synaptojanin II		U90312 Rattus norvegicus synaptojanin II mRNA, complete cds /cds=(55,3801) /gb=U90312 /gi=2708492 /ug=Rn.10868 /len=5033	CYTOPLASMIC INTERACTION OF ISOFORM 2A WITH OMP25 RESULTS IN LOCALIZATION TO THE MITOCHONDRION.	Synaptojanin 2 (EC 3.1.3.56) (Synaptic inositol-1,4,5-trisphosphate 5-phosphatase 2).
NM_024159	11993	O88797	11994	AK024965	11995	NP_001334	11996	92.56	DOC-2 p82 isoform	U95178	U95178 Rattus norvegicus DOC-2 p59 isoform mRNA, complete cds /cds=(6,1658) /gb=U95178 /gi=3157994 /ug=Rn.14763 /len=2504		Disabled homolog 2 (DOC-2) (Mitogen-responsive phosphoprotein) (C9).
U97142	11997	Q62997	11998	AF042080	11999	P56159	12000	90.19	Glial cell line-derived neurotrophic factor receptor alpha (42 on d.s.)		U97142 Rattus norvegicus RET ligand 1 (RET L1) mRNA, complete cds /cds=(256,1662) /gb=U97142 /gi=2282021 /ug=Rn.6281 /len=3616	Attached to the membrane by a GPI-anchor.	GDNF receptor alpha precursor (GDNFR-alpha) (TGF-beta related neurotrophic factor 1) (RET ligand 1).
V01216	12001	P02764	12002	X02544	12003	P02763	12004	51	Rat messenger encoding alpha-1-acid glycoprotein		V01216 Rat messenger encoding alpha-1-acid glycoprotein /cds=(35,652) /gb=V01216 /gi=55559 /ug=Rn.10295 /len=769		Alpha-1-acid glycoprotein precursor (Orosomucoid) (OMD).
NM_024128	12005	NP_077042	12006	AW974756	12007	No Human Protein Found.		93.69	Brain specific mRNA B (clone p1a75)	V01543	V01543mRNA Rat mRNA fragment isolated from the brain and coding for brain specific peptide /cds=(547,906) /gb=V01543 /gi=56876 /ug=Rn.2865 /len=1136		

Table 2.

NM_03 1518	12008	P04218	12009	X05323	12010	CAA289 43	12011	69	Cell surface protein (thymocyte, antigen identified by monoclonal antibody MRC- OX2	X01785	X01785 Rat thymocyte mRNA for cell surface protein (MRC OX-2) /cds=(24,860) /gb=X01785 /gi=56700 /ug=Rn.7085 /len=2216	Type I membrane protein.	OX-2 membrane glycoprotein precursor (MRC OX-2 antigen).
X02341	12012	CAA26 200	12013	NM_0033 81	12014	P01282	12015	84	Vasoactive intestinal polypeptide (VIP) precursor		X02341cds RNVIPR Rat mRNA for vasoactive intestinal polypeptide (VIP) precursor		
X02601	12016	P03957	12017	J03209	12018	P08254	12019	83	53 kD polypeptide induced by growth factors (EGF) and oncogenes (H- ras; src; polyoma middle T)		X02601 Rat mRNA for 53 kD polypeptide induced by growth factors (EGF) and oncogenes (H-ras; src; polyoma middle T) /cds=(57,1484) /gb=X02601 /gi=57460 /ug=Rn.10435 /len=1771		Stromelysin-1 precursor (EC 3.4.24.17) (Matrix metalloproteinase-3)(MMP-3) (Transin-1) (SL-1) (PTR1 protein).
NM_01 2998	12020	P04785	12021	BE770246	12022	P37268	12023	87.62	Protein disulfide isomerase (Prolyl 4- hydroxylase, beta polypeptide)	X02918	X02918 Rat mRNA for protein disulphide isomerase (PDI; EC 5.3.4.1) /cds=(44,1570) /gb=X02918 /gi=56871 /ug=Rn.4234 /len=2460	Endoplasmic reticulum lumen.	Protein disulfide isomerase precursor (PDI) (EC 5.3.4.1) (Prolyl 4- hydroxylase beta subunit) (Cellular thyroid hormone binding protein)(Thyroxine deiodinase) (EC 3.8.1.4) (Iodothyronine 5'-monodeiodin
X06769	12024	CAA29 937	12025	V01512	12026	CAA247 56	12027	77	c-fos protein		X06769cds RNCFOSR Rat c-fos mRNA		

Table 2.

X07467	12028	P05370	12029	X03674	12030	P11413	12031	93	Glucose-6-phosphate dehydrogenase		X07467 Rat mRNA for glucose-6-phosphate dehydrogenase (Gd, EC 1.1.1.49) /cgs=(41,1588) /gb=X07467 /gi=56195 /ug=Rn.11040 /len=2306		Glucose-6-phosphate 1-dehydrogenase (EC 1.1.1.49) (G6PD).
X07636	12032	P08290	12033	M11025	12034	P07307	12035	67	Asialoglycoprotein receptor 2		X07636 Rat mRNA for hepatic lectin /cgs=(77,982) /gb=X07636 /gi=57066 /ug=Rn.9834 /len=1290	Type II membrane protein.	Asialoglycoprotein receptor R2/3 (Hepatic lectin 2/3) (RHL-2) (ASGP-R)(ASGPR).
NM_013069	12036	P10247	12037	NM_004355	12038	P04233	12039	67	CD74 antigen (invariant polypeptide of major histocompatibility class II antigen-associated) (9 on d.s.)	X13044	X13044 Rat mRNA for MHC-associated invariant chain gamma /cgs=(52,702) /gb=X13044 /gi=56497 /ug=Rn.10475 /len=1150	Type II membrane protein.	H-2 class II histocompatibility antigen, gamma chain (MHC class II associated invariant chain) (Ia antigen-associated invariant chain)(Ii) (CD74 antigen).
X13722	12040	P35952	12041	S70123	12042	AAF24515	12043	88.68	Rat mRNA for LDL-receptor		X13722 Rat mRNA for LDL-receptor /cgs=(153,2792) /gb=X13722 /gi=56569 /ug=Rn.10483 /len=3037	Type I membrane protein.	Low-density lipoprotein receptor precursor (LDL receptor).
X17012	12044	P01346	12045	X00910	12046	P01344	12047	90	Insulin-like growth factor II (somatomedin A)		X17012mRNA RNIGF2 Rat IGFII gene for insulin-like growth factor II		
X17053	12048	CAA34901	12049	NM_005408	12050	Q99616	12051	53	Immediate-early serum-responsive JE gene (6 on d.s.)		X17053mRNA RATJE Rat immediate-early serum-responsive JE gene		

Table 2.

X52840	12052	P18666	12053	X54304	12054	P19105	12055	97	Myosin regulatory light chain		X52840 Rat mRNA for smooth muscle myosin RLC-B /cds=(17,535) /gb=X52840 /gi=56702 /ug=Rn.2967 /len=1113		Myosin regulatory light chain 2-B, smooth muscle isoform (MyosinRLC-B).
X53054	12056	P18211	12057	No human homolog found.		I68796		72	RT1.D beta chain	Sequence 53 from patent US 5677149	X53054 Rat mRNA for RT1.D beta chain /cds=(15,809) /gb=X53054 /gi=57169 /ug=Rn.11299 /len=1197		RT1 class II histocompatibility antigen, D-1 beta chain precursor.
NM_022688	12058	P18889	12059	No Human		No Human Protein Found.			Preoptic regulatory factor-1	X53231	X53231 Rat mRNA for preoptic regulatory factor-1 (PORF-1) /cds=(26,139) /gb=X53231 /gi=56949 /ug=Rn.19843 /len=689	Secreted .	Putative preoptic regulatory factor 1 precursor (PORF-1).
X55812	12060	P20272	12061	X81121	12062	P21554	12063	93.46	Cannabinoid receptor 1		X55812completeSeq Rat mRNA for SKR6 gene, a CB1 cannabinoid receptor /cds=UNKNOWN /gb=X55812 /gi=1552375 /ug=Rn.10579 /len=5465	Integral membrane protein.	Cannabinoid receptor 1 (CB1) (CB-R) (Brain-type cannabinoid receptor).
X56596	12064	P29826	12065	BM72735 5	12066	P05538	12067	96.99	MHC class II antigen RT1.B-1 beta-chain		X56596 Rat mRNA for MHC class II antigen RT1.B-1 beta-chain /cds=(7,798) /gb=X56596 /gi=57152 /ug=Rn.20089 /len=1374		RT1 class II histocompatibility antigen, B-1 beta chain precursor(RT1.B-beta(1)).
X57764	12068	P21451	12069	X99250	12070	P24530	12071	88.64	ET-B Endothelin receptor		X57764 Rat mRNA for ET-B endothelin receptor /cds=(203,1528) /gb=X57764 /gi=56122 /ug=Rn.11412 /len=1892	Integral membrane protein.	Endothelin B receptor precursor (ET-B) (Endothelin receptorNon-selective type).
X58631	12072	PT0183	12073	L36645	12074	P54764	12075	94	ESTs, Highly similar to PT0183 protein-tyrosine kinase [R.norvegicus]		X58631cds RPTYKI Rat mRNA for protein-tyrosine kinase		

Table 2.

X58830	12076	Q04906	12077	AI367148	12078	P22004	12079	92.19	Bone morphogenetic protein 6		X58830 Rat vgr mRNA /cds=(0,623) /gb=X58830 /gi=57475 /ug=Rn.10436 /len=1241		Bone morphogenetic protein 6 precursor (BMP-6) (VG-1-related protein)(VGR-1) (Fragment).
X59132	12080	P23811	12081	AI220044	12082	P47872	12083	93.85	Secretin receptor		X59132 R.norvegicus mRNA for secretin receptor /cds=(212,1561) /gb=X59132 /gi=57228 /ug=Rn.10977 /len=1796	Integral membrane protein.	Secretin receptor precursor (SCT-R).
X59267	12084	Q07266	12085	U00802	12086	Q16643	12087	89.24	Drebrin A		X59267 R.norvegicus mRNA for drebrin A /cds=(53,2176) /gb=X59267 /gi=297820 /ug=Rn.11247 /len=2678	Cytoplasmic.	Drebrin (Developmentally regulated brain protein).
X59864	12088	CAA42524	12089	No human homolog found.		No Human Protein Found.			ASM15 gene		X59864mRNA RRASM15 Rat ASM15 gene		
X59993	12090	Q63679	12091	AF155648	12092	g3882205	12093	96.95	Putative zinc finger protein		X59993 R.norvegicus mRNA for putative zinc finger protein /cds=(299,3943) /gb=X59993 /gi=57503 /ug=Rn.10541 /len=4505		Testis specific protein A (Zinc finger protein TSGA).
X61381	12094	CAA43655	12095	BC006794	12096	Q01628	12097	65	Interferon induced mRNA		X61381cds RRIIMRNA R. rattus interferon induced mRNA		
X61654	12098	P28648	12099	X07982	12100	P08962	12101	78	Cd63 antigen		X61654 Rat mRNA for ad1-antigen /cds=(60,776) /gb=X61654 /gi=55601 /ug=Rn.11068 /len=860	Integral membrane protein. Lysosomal. SECRETORY GRANULES AND PLASMA MEMBRANE OF MANY CULTURED CELL LINES.	CD63 antigen (AD1 antigen).

Table 2.

X62322	12102	P23785	12103	X62320	12104	P28799	12105	89.93	Granulin		X62322 R.norvegicus mRNA for epithelin 1 and 2 /cds=(30,1799) /gb=X62322 /gi=56108 /ug=Rn.5820 /len=2137		Granulins precursor (Acrogranin) [Contains: Granulin 1 (Granulin G); Granulin 2 (Granulin F); Granulin 3 (Granulin B) (Epithelin 2); Granulin 4 (Granulin A) (Epithelin 1); Granulin 5 (Granulin C); Granul
NM_013085	12106	P29598	12107	D00244	12108	P00749	12109	86.49	Urinary plasminogen activator, urokinase	X63434	X63434 R.norvegicus mRNA for urokinase-type plasminogen activator /cds=(107,1405) /gb=X63434 /gi=57465 /ug=Rn.6064 /len=2366		Urokinase-type plasminogen activator precursor (EC 3.4.21.73) (uPA)(U-plasminogen activator).
X64563	12110	P29524	12111	M18082	12112	P05120	12113	82.34	Plasminogen activator inhibitor 2 type A		X64563cds RNPA12AMR R.norvegicus mRNA for plasminogen activator inhibitor 2 type A (PA12A)	CYTOPLASMIC OR EXTRACELLULAR...	Plasminogen activator inhibitor-2, type A (PA12A).
X65036	12114	Q63258	12115	AF032108	12116	Q13683	12117	90.21	Alpha 7A integrin (10, 35 on d.s.)		X65036 R.norvegicus mRNA for H36-alpha7 integrin alpha chain /cds=(0,3320) /gb=X65036 /gi=56392 /ug=Rn.3238 /len=3754	Type I membrane protein.	Integrin alpha-7 (H36-alpha7).
X65454	12118	Q64375	12119	U47621	12120	Q92791	12121	93.83	SC65 synaptonemal complex protein		X65454 R.norvegicus mRNA for SC65 synaptonemal complex protein /cds=(19,1314) /gb=X65454 /gi=57191 /ug=Rn.10547 /len=1407	NUCLEAR. LOCATED IN THE PAIRING ZONE OF THE SYNAPTONEMAL COMPLEX.	Synaptonemal complex protein SC65.

Table 2.

X66022	12122	P56163	12123	U43843	12124	Q92782	12125	93.5	Neuro-d4			X66022mRNA#1 RNND4P R.norvegicus mRNA for neuro-D4 protein	Nuclear and cytoplasmic .	Zinc-finger protein neuro-d4.
NM_012923	12126	P39950	12127	NM_004060	12128	P51959	12129	90	Cyclin G1	X70871		X70871 R.norvegicus mRNA for cyclin G /cds=(0,884) /gb=X70871 /gi=432967 /ug=Rn.11360 /len=885	Nuclear .	Cyclin G1 (Cyclin G).
X73371	12130	Q63203	12131	X52473	12132	P31994	12133	54	Fc gamma receptor			X73371 R.norvegicus mRNA for Fc gamma receptor /cds=(124,981) /gb=X73371 /gi=397576 /ug=Rn.10363 /len=1430	Type I membrane protein.	Low affinity immunoglobulin gamma FC II precursor (FC-gamma RII) (IGG FC receptor II beta).
NM_012736	12134	P35571	12135	AK022596	12136	XP_002442		92.07	Glycerol-3-phosphate dehydrogenase 2 (mitochondrial)	X78593		X78593 R.norvegicus mRNA for glycerol-3-phosphate dehydrogenase /cds=(91,2274) /gb=X78593 /gi=603582 /ug=Rn.10167 /len=2400	Mitochondrial	Glycerol-3-phosphate dehydrogenase, mitochondrial precursor(EC 1.1.99.5) (GPD-M) (GPDH-M).
X78603	12137	Q63055	12138	X91504	12139	Q13795	12140	97	ARP1 mRNA for ARF-related protein			X78603 R.norvegicus (Sprague Dawley) ARP1 mRNA for ARF-related protein /cds=(137,742) /gb=X78603 /gi=1103618 /ug=Rn.10973 /len=925		ARF-related protein (ARP).
X89699	12141	CAA61846	12142	NM_003554	12143	NP_003545	12144	57	TPCR10 protein			X89699cds RNTPCR10P R.norvegicus mRNA for TPCR10 protein		
X89703	12145	CAA61850	12146	X89675	12147	CAA61822	12148	46	TPCR19 protein			X89703cds RNTPCR19P R.norvegicus mRNA for TPCR19 protein		
X95986	12149	g1906814		J04056	12150	P16152	12151	80	Carbonyl reductase			X95986mRNA#1 R.norvegicus CBR gene /cds=(55,888) /gb=X95986 /gi=1217650 /ug=Rn.3425 /len=1012		
X96437	12152	No Rat Protein Found.		X96438	12153	CAA65304	12154	82	PRG1 gene (contains a transcription factor domain)			X96437mRNA RNPGRG1 R.norvegicus PRG1 gene		

Table 2.

Y00396	12155	TV/RTM C	12156	M13929	12157	I57605		90	Avian myelocytomat osis viral (v- myc) oncogene homolog		Y00396mRNA RNCMYC Rat c-myc oncogene and flanking regions		
Y07704	12158	CAA68 971	12159	BC017969	12160	XP_039 079	12161	85.37	Best5 protein		Y07704 Rattus norvegicus BEST5 mRNA for hypothetical protein /cds=(5,1087) /gb=Y07704 /gi=3135886 /ug=Rn.14882 /len=3595		
Y09333	12162	O55171	12163	L40401	12164	P49753	12165	71	Mitochondrial very-long- chain acyl- CoA thioesterase		Y09333 R. norvegicus mRNA for mitochondrial very-long-chain acyl-CoA thioesterase /cds=(100,1461) /gb=Y09333 /gi=2832738 /ug=Rn.11326 /len=1711	Mitochondrial matrix.	Acyl coenzyme A thioester hydrolase, mitochondrial precursor(EC 3.1.2.2) (Very- long-chain acyl- CoA thioesterase) (MTE-I).
Y16188	12166	CAA76 114	12167	Y16187	12168	CAA761 13	12169	90	XCE protein		Y16188 HSY16188 Rattus norvegicus mRNA for XCE protein, partial		
Z11995	12170	Q99068	12171	AK027025	12172	P30533	12173	86	45kDa protein which binds to heyman nephritis antigen gp330		Z11995cds RN45KDB R. norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330	INTRACELL ULAR AND ASSOCIATE D WITH CELL SURFACE RECEPTOR S.	Alpha-2- macroglobulin receptor- associated protein precursor(Alpha- 2-MRAP) (Low density lipoprotein receptor-related protein- associated protein 1) (RAP) (GP330-binding 45 kDa protein) (Fragment).

Table 2.

Z36276	12174	Q64595	12175	X94612	12176	JE0103	12177	88.68	cGMP dependent protein kinase type II		Z36276 <i>R.norvegicus</i> (Sprague-Dawley) GK II mRNA for cGMP dependent protein kinase II /cds=(47,2335) /gb=Z36276 /gi=556668 /ug=Rn.10443 /len=2990		cGMP- dependent protein kinase 2 (EC 2.7.1.37) (CGK 2) (cGKII) (Type IIcGMP- dependent protein kinase).
Z75029	12178	Q07439	12179	M24743	12180	I59139		96	Heat shock protein 70-1		Z75029 <i>R.norvegicus</i> hsp70.2 mRNA for heat shock protein 70 /cds=(0,37) /gb=Z75029 /gi=1483577 /ug=Rn.1950 /len=707		

Table 3.

Rat gene	Rat gene SEQ ID NO:	Rat Protein	Rat protein SEQ ID NO:	Human Genes	Human gene SEQ ID NO:	Human Protein	Human protein SEQ ID NO:	% homology	Identifier	Former Identifier	Description
AA799389	12181	NP_112353	12182	XM_001501		XP_001501		95	Rab3B protein	NM_031091	AA799389 EST188886 Rattus norvegicus cDNA, 5' end /clone=RHEAA70 /clone_end=5' /gb=AA799389 /gi=2862344 /ug=Rn.3788 /len=588
AB000517	12183	BAA22085	12184	XM_003308	12185	XP_003308	12186	86	CDP- diacylglycerol synthase		AB000517 Rattus sp. mRNA for CDP- diacylglycerol synthase, complete cds
AB003357	12187	BAA20077	12188	AL138761	12189	CAC00587	12190	66	Serine/threo nine kinase 2		AB003357 Rat mRNA for protein kinase, complete cds
AB009463	12191	BAA32331	12192	AB009462	12193	BAA32330	12194	84	LRp105		AB009463 Rattus norvegicus mRNA for LRp105, complete cds
AB009463	12195	BAA32331	12196	AB009462	12197	BAA32330	12198	84	LRp105		Rattus norvegicus mRNA for LRp105, complete cds
AB010635	12199	BAA25692	12200	NM_003869	12201	NP_003860	12202	69	Carboxyleste rase precursor		AB010635 Rattus norvegicus mRNA for carboxylesterase precursor, complete cds
AB015191	12203	NP_071950	12204	Z97026	12205	CAB09722	12206	52	Rhesus blood group	NM_022505	AB015191 Rattus norvegicus mRNA for Rh blood group protein, complete cds
AB015191	12207	NP_071950	12208	Z97026	12209	CAB09722	12210	52	Rhesus blood group	NM_022505	AB015191 Rattus norvegicus mRNA for Rh blood group protein, complete cds
AB015432	12211	BAA33035	12212	NM_003486	12213	NP_003477	12214	83	LAT1 (L-type amino acid transporter 1)		AB015432 Rattus norvegicus mRNA for LAT1 (L-type amino acid transporter 1), complete cds
AB016161	12215	Q9Z0U4	12216	AJ225028	12217	Q9UBS5	12218	97	Gamma- aminobutyric acid (GABA) B receptor, 1		AB016161UTR#1 Rattus norvegicus mRNA for GABAB receptor 1d, complete cds

Table 3.

AB016161	12219	Q9Z0U4	12220	AJ225028	12221	Q9UBS5	12222	97	Gamma-aminobutyric acid (GABA) B receptor, 1
AB016425	12223	BAA36681	12224	NM_002538	12225	NP_002529	12226	81	Occludin
AB017596	12227	BAA33393	12228	AF110304	12229	AAF36094	12230	73	PC1 mRNA for plasma cell membrane glycoprotein, partial cds
AF000973	12231	AAB82740	12232	XM_012875	12233	XP_012875	12234	75	Calcium-activated potassium channel (SK1) mRNA
AF009604	12235	O35180	12236	X99664	12237	Q99963	12238	86	SH3 domain protein 2 C1
AF015911	12239	AAB69864	12240	AF395817	12241	AAK83885	12242	78	NAC-1 protein (NAC-1)
AF016247	12243	AAD01584	12244	X74764	12245	CAA52777	12246	87	Rattus norvegicus RTK40 homolog (tyro10) mRNA
AF016247	12247	AAD01584	12248	X74764	12249	CAA52777	12250	87	Rattus norvegicus RTK40 homolog (tyro10) mRNA
AB016161	AB016161UTR#1 Rattus norvegicus mRNA for GABAB receptor 1d, complete cds								
AB016425	AB016425 Rattus norvegicus mRNA for occludin, complete cds								
AB017596	AB017596 Rattus norvegicus PC1 mRNA for plasma cell membrane glycoprotein, partial cds								
AF000973	AF000973 RNAF000973 Rattus norvegicus calcium-activated potassium channel (SK1) mRNA, complete cds								
AF009604	AF009604 Rattus norvegicus SH3p13 mRNA, partial cds /cds=(0,875) /gb=AF009604 /gi=2293469 /ug=Rn.5909 /len=1216								
AF015911	AF015911 Rattus norvegicus NAC-1 protein (NAC-1) mRNA, complete cds /cds=(134,1678) /gb=AF015911 /gi=2384731 /ug=Rn.11171 /len=2046								
AF016247	AF016247 Rattus norvegicus RTK40 homolog (tyro10) mRNA, complete cds								
AF016247	AF016247 Rattus norvegicus RTK40 homolog (tyro10) mRNA, complete cds								

Table 3.

AF024712	12251	AAD05124	12252	X17273	12253	P17693	12254	69	MHC class Ib M4 (RT1.M4) pseudogene	AF024712cds Rattus norvegicus MHC class Ib M4 (RT1.M4) pseudogene, complete sequence
AF029357	12255	g2570935	12256	AL022727	12257	g3757726		48	Rattus norvegicus olfactory receptor-like protein gene, complete cds	AF029357cds Rattus norvegicus olfactory receptor-like protein gene, complete cds
AF030358	12258	AAC33834	12259	U84487	12260	AAB49679	12261	63	Rattus norvegicus chemokine CX3C mRNA, complete cds	AF030358 Rattus norvegicus chemokine CX3C mRNA, complete cds
AF030358	12262	AAC33834	12263	U84487	12264	AAB49679	12265	63	Rattus norvegicus chemokine CX3C mRNA, complete cds	Rattus norvegicus chemokine CX3C mRNA, complete cds
AF034896	12266	AAD01991	12267	NM_013941	12268	NP_039229	12269	57	Olfactory receptor-like protein (SCR D-8)	AF034896 Rattus norvegicus olfactory receptor-like protein (SCR D-8) mRNA, complete cds
AF034899	12270	JC5836	12271	L35475	12272	Q15062	12273	44	Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds	AF034899 Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds /cds=(0,965) /gb=AF034899 /gi=3153224 /lug=Rn.14522 /len=1086

Table 3.

AF034899	12274	JC5836	12275	L35475	12276	Q15062	12277	44	Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds	AF034899 Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds /cds=(0,965) /gb=AF034899 /gi=3153224 /ug=Rn.14522 /len=1086
AF034899	12278	JC5836	12279	L35475	12280	Q15062	12281	44	Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds	AF034899 Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds /cds=(0,965) /gb=AF034899 /gi=3153224 /ug=Rn.14522 /len=1086
AF034899	12282	JC5836	12283	L35475	12284	Q15062	12285	44	Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds	AF034899 Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds /cds=(0,965) /gb=AF034899 /gi=3153224 /ug=Rn.14522 /len=1086
AF034900	12286	AAC17224	12287	NM_013941	12288	NP_039229	12289	57	Olfactory receptor-like protein (SCR D-7)	AF034900mRNA Rattus norvegicus olfactory receptor-like protein (SCR D-7) gene, complete cds
AF035822	12290	AAC72291	12291	NM_004782	12292	NP_004773	12293	82	GS32	AF035822 Rattus norvegicus GS32 (GS32) mRNA, complete cds
AF039212	12294	AAB94937	12295	AF297093	12296	AAG30417	12297	64	UDP-glucuronosyltransferase 1A7 (UGT1A7) gene	AF039212mRNA Rattus norvegicus UDP-glucuronosyltransferase 1A7 (UGT1A7) gene, promoter and partial cds

Table 3.

AF039218	12298	T14039	12299	AC002563	12300	O14578	12301	96	Postsynaptic density protein (citron) mRNA, complete cds /cds=(612,5468) /gb=AF039218 /gi=2745839 /ug=Rn.10876 /len=5952
AF039308	12302	AAC28781	12303	NM_012413	12304	NP_036545	12305	84	Rattus norvegicus glutaminyl cyclase mRNA, partial cds
AF044910	12306	AAC01747	12307	NM_022875	12308	NP_075013	12309	64	AF044910 Rattus norvegicus survival motor neuron (smn) mRNA, complete cds /cds=(21,887) /gb=AF044910 /gi=2832312 /ug=Rn.1119 /len=1207
AF044910	12310	AAC01747	12311	NM_022875	12312	NP_075013	12313	64	AF044910 Rattus norvegicus survival motor neuron (smn) mRNA, complete cds /cds=(21,887) /gb=AF044910 /gi=2832312 /ug=Rn.1119 /len=1207
AF059678	12314	S02003	12315	L23320	12316	A49651	12317	75	Rattus norvegicus VIP-receptor-gene repressor protein mRNA, complete cds
AF060174	12318	AAC78628	12319	XM_051920		XP_051920		60	AF060174 Rattus norvegicus synaptic vesicle protein 2C (SV2C) mRNA, complete cds
AF061266	12320	AAC67387	12321	U31110	12322	P48995	12323	88	AF061266 Rattus norvegicus trp1 beta variant mRNA, complete cds

Table 3.

AF061945	12324	AAD11811	12325	XM_042803	XP_042803	79	Rattus norvegicus NMDA receptor-like long variant mRNA, partial cds	AF061945 Rattus norvegicus NMDA receptor-like long variant mRNA, partial cds
AF061945	12326	AAD11811	12327	XM_042803	XP_042803	79	Rattus norvegicus NMDA receptor-like long variant mRNA, partial cds	AF061945 Rattus norvegicus NMDA receptor-like long variant mRNA, partial cds
AF061945	12328	AAD11811	12329	XM_042803	XP_042803	79	Rattus norvegicus NMDA receptor-like long variant mRNA, partial cds	AF061945 Rattus norvegicus NMDA receptor-like long variant mRNA, partial cds
AF061945	12330	AAD11811	12331	XM_042803	XP_042803	79	Rattus norvegicus NMDA receptor-like long variant mRNA, partial cds	AF061945 Rattus norvegicus NMDA receptor-like long variant mRNA, partial cds

Table 3.

AF062741	12332	AAC40168	12333	XM_043826	12334	Q9P2J9	12335	83	Rattus norvegicus pyruvate dehydrogenase isoenzyme 2 mRNA, complete cds	Rattus norvegicus pyruvate dehydrogenase isoenzyme 2 mRNA, complete cds
AF063103	12336	AAC77816	12337	XM_034091		XP_034091		58	AF063103 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 3 (CIRL-3) mRNA, complete cds	AF063103 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 3 (CIRL-3) mRNA, complete cds
AF063103	12338	AAC77816	12339	AF063103	12340	AAC77816	12341	93	AF063103 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 3 (CIRL-3) mRNA, complete cds	AF063103 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 3 (CIRL-3) mRNA, complete cds
AF063302	12342	AAC72745	12343	U62733	12344	AAC51122	12345	72	AF063302mRNA#3 Rattus norvegicus carnitine palmitoyltransferase Ibeta 1, carnitine palmitoyltransferase Ibeta 2, and carnitine palmitoyltransferase Ibeta 3 gene, nuclear gene encoding mitochondrial proteins, alternatively spliced products, partial cds	AF063302mRNA#3 Rattus norvegicus carnitine palmitoyltransferase Ibeta 1, carnitine palmitoyltransferase Ibeta 2, and carnitine palmitoyltransferase Ibeta 3 gene, nuclear gene encoding mitochondrial proteins, alternatively spliced products, partial cds
AF063302	12346	AAC72745	12347	U62733	12348	AAC51122	12349	72	AF063302mRNA#3 Rattus norvegicus carnitine palmitoyltransferase Ibeta 1, carnitine palmitoyltransferase Ibeta 2, and carnitine palmitoyltransferase Ibeta 3 gene, nuclear gene encoding mitochondrial proteins, alternatively spliced products, partial cds	AF063302mRNA#3 Rattus norvegicus carnitine palmitoyltransferase Ibeta 1, carnitine palmitoyltransferase Ibeta 2, and carnitine palmitoyltransferase Ibeta 3 gene, nuclear gene encoding mitochondrial proteins, alternatively spliced products, partial cds
AF064868	12350	AAC63267	12351	NM_020836	12352	NP_065887	12353	79	AF064868 Rattus norvegicus brain-enriched guanylate kinase-associated protein 1 mRNA, complete cds	AF064868 Rattus norvegicus brain-enriched guanylate kinase-associated protein 1 mRNA, complete cds

Table 3.

AF065161	12354	AAC17502	12355	XM_002835		XP_002835	87	cytokine-inducible SH2-containing protein	AF065161 Rattus norvegicus cytokine-inducible SH2-containing protein mRNA, partial cds /cds=(0,770) /gb=AF065161 /gi=3158431 /ug=Rn.14523 /len=803
AF076856	12356	AAC69563	12357	NM_031475		NP_113663	97	Small espin mRNA	AF076856 Rattus norvegicus small espin mRNA, complete cds
AF079162	12360	AAC98398	12361	NM_000264		NP_000255	92	Rattus norvegicus patched (ptc) mRNA, partial cds	AF079162 Rattus norvegicus patched (ptc) mRNA, partial cds
AF081148	12364	AAC62654	12365	AL157903		CAC19796	81	CL2AA mRNA	AF081148 Rattus norvegicus CL2AA mRNA, complete cds
AF083341	12368	AAC32866	12369	AF025999		AAB88802	92	Calcium-activated potassium channel (SLON-1) mRNA, partial cds	AF083341 Rattus norvegicus calcium-activated potassium channel (SLON-1) mRNA, partial cds
AF086758	12372	AAD09008	12373	NM_001046		NP_001037	80	Na-K-2Cl cotransporter (Nkcc1)	AF086758 Rattus norvegicus Na-K-2Cl cotransporter (Nkcc1) mRNA, partial cds
AF089839	12376	AAF01051	12377	XM_032173		XP_032173	91n	N-ethylmaleimide sensitive factor	AF089839 Rattus norvegicus N-ethylmaleimide sensitive factor mRNA, partial cds
AF089839	12380	AAF01051	12381	XM_032173		XP_032173	91n	N-ethylmaleimide sensitive factor	Rattus norvegicus N-ethylmaleimide sensitive factor mRNA, partial cds
AF090134	12384	AAC78073	12385	NM_004664		NP_004655	88	Rattus norvegicus lin-7-Ba mRNA, complete cds	AF090134 Rattus norvegicus lin-7-Ba mRNA, complete cds

Table 3.

AF090692	12388	AAC36317	12389	NM_005492	12390	NP_005483	12391	62	Cystatin-related epididymal spermatogenic protein (CRES) mRNA, complete cds	AF090692 Rattus norvegicus cystatin-related epididymal spermatogenic protein (CRES) mRNA, complete cds
AF090692	12392	AAC36317	12393	NM_005492	12394	NP_005483	12395	62	Cystatin-related epididymal spermatogenic protein (CRES) mRNA, complete cds	AF090692 Rattus norvegicus cystatin-related epididymal spermatogenic protein (CRES) mRNA, complete cds
AF091563	12396	AAC64586	12397	AF321237	12398	AAG45205	12399	49	Rattus norvegicus isolate QIL-LD1 olfactory receptor	AF091563 Rattus norvegicus isolate QIL-LD1 olfactory receptor mRNA, partial cds
AF091563	12400	AAC64586	12401	AF321237	12402	AAG45205	12403	49	Rattus norvegicus isolate QIL-LD1 olfactory receptor	AF091563 Rattus norvegicus isolate QIL-LD1 olfactory receptor mRNA, partial cds
AF091563	12404	AAC64586	12405	AF321237	12406	AAG45205	12407	49	Isolate QIL-LD1 olfactory receptor mRNA	AF091563 Rattus norvegicus isolate QIL-LD1 olfactory receptor mRNA, partial cds
AF091563	12408	AAC64586	12409	AF321237	12410	AAG45205	12411	49	Isolate QIL-LD1 olfactory receptor mRNA	AF091563 Rattus norvegicus isolate QIL-LD1 olfactory receptor mRNA, partial cds

Table 3.

AF091578	12412	AAC64598	12413	NM_006637	12414	NP_006628	12415	47	Rattus norvegicus isolate EVA-TN1 olfactory receptor mRNA, partial cds	AF091578 Rattus norvegicus isolate EVA-TN1 olfactory receptor mRNA, partial cds
AF092523	12416	AAC61775	12417	BC000729	12418	AAH00729	12419	44	A-kinase anchor protein 84 mRNA	AF092523 Rattus norvegicus A-kinase anchor protein 84 mRNA, complete cds
AF092523	12420	AAC61775	12421	BC000729	12422	AAH00729	12423	44	A-kinase anchor protein 84 mRNA	AF092523 Rattus norvegicus A-kinase anchor protein 84 mRNA, complete cds
AF096291	12424	1AF3	12425	U59747	12426	Q92843	12427	98	APOPTOSIS REGULATORY BCL-W	Rattus norvegicus Bcl-w (bcl-w) mRNA, complete cds
AF097887	12428	AAC69198	12429	NP_067028		NP_067028	12430	61	Chp	AF097887 Rattus norvegicus Chp mRNA, complete cds
AF104399	12431	AAC98389	12432	NM_004143	12433	NP_004134	12434	61	Rattus norvegicus melanocyte-specific gene 1 protein (msg1) mRNA, complete cds	AF104399 Rattus norvegicus melanocyte-specific gene 1 protein (msg1) mRNA, complete cds
AF104399	12435	AAC98389	12436	NM_004143	12437	NP_004134	12438	61	Rattus norvegicus melanocyte-specific gene 1 protein (msg1) mRNA, complete cds	AF104399 Rattus norvegicus melanocyte-specific gene 1 protein (msg1) mRNA, complete cds

Table 3.

AJ005046	12439	CAA06313	12440	NM_003837	12441	NP_003828	12442	95	Rattus norvegicus mRNA for muscle fructose-1,6-bisphosphatase	AJ005046 Rattus norvegicus mRNA for muscle fructose-1,6-bisphosphatase
AJ011115	12443	CAA09493	12444	XM_004684		XP_004684		98	Rattus norvegicus mRNA for endothelial nitric oxide synthase, 5' region, partial	AJ011115 RNO011115 Rattus norvegicus mRNA for endothelial nitric oxide synthase, 5' region, partial
AJ011115	12445	CAA09493	12446	XM_004684		XP_004684		98	Rattus norvegicus mRNA for endothelial nitric oxide synthase, 5' region, partial	AJ011115 RNO011115 Rattus norvegicus mRNA for endothelial nitric oxide synthase, 5' region, partial
D00569	12447	Q64591	12448	L26050	12449	Q16698	12450	81	Rattus norvegicus mRNA for 2,4-dienoyl-CoA reductase precursor, complete cds	D00569 Rat mRNA for 2,4-dienoyl-CoA reductase (EC 1.3.1.34) /cds=(18,1025) /gb=D00569 /gi=220731 /ug=Rn.2854 /len=1118
D00569	12451	Q64591	12452	L26050	12453	Q16698	12454	81	Rattus norvegicus mRNA for 2,4-dienoyl-CoA reductase precursor, complete cds	Rat mRNA for 2,4-dienoyl-CoA reductase (EC 1.3.1.34) /cds=(18,1025) /gb=D00569 /gi=220731 /ug=Rn.2854 /len=1118

Table 3.

D00569	12455	Q64591	12456	L26050	12457	Q16698	12458	81	Rattus norvegicus mRNA for 2,4-dienoyl-CoA reductase precursor, complete cds	Rat mRNA for 2,4-dienoyl-CoA reductase (EC 1.3.1.34) /cds=(18,1025) /gb=D00569 /gi=220731 /ug=Rn.2854 /len=1118
D00729	12459	BAA00629	12460	XM_028848	12461	XP_028848	12462	53	Delta3, delta2-enoyl-CoA isomerase; SEVERAL EXONS; ONLY 1 & 2 LISTED ON THIS SHEET	D00729 Rat mRNA for delta3, delta2-enoyl-CoA isomerase /cds=(77,973) /gb=D00729 /gi=220733 /ug=Rn.24969 /len=1060
D00729	12463	BAA00629	12464	XM_028848	12465	XP_028848	12466	53	Glutathione S-transferase, theta 2 GUST27 protein	Rat mRNA for delta3, delta2-enoyl-CoA isomerase /cds=(77,973) /gb=D00729 /gi=220733 /ug=Rn.24969 /len=1060
D10026	12467	BAA00916	12468	NM_000854	12469	NP_000845	12470	78	T cell receptor eta chain, partial cds	D10026 RATGSTYRS Rattus norvegicus mRNA for glutathione S-transferase Yrs-Yrs, complete cds
D12820	12471	BAA02252	12472	NM_012377	12473	NP_036509	12474	59		D12820 RATGUST27 Rat mRNA for GUST27 protein, complete cds
D13556	12475	BAA02754				Null		No Human		D13556exon RATTREC9 Rat DNA for T cell receptor eta chain, exon 9

Table 3.

D13966	12476	BAA03069	12477	XM_043563	12478	XP_043563	12479	86	Rat mRNA for sIRR-2(insulin receptor-related receptor alternatively spliced product), complete cds	D13966 RATSIRR2 Rat mRNA for sIRR-2(insulin receptor-related receptor alternatively spliced product), complete cds
D14448	12480	P52164	12481	XM_039545	12484	XP_039545	12485	98	MAX PROTEIN	D14448 RATMAX2 Rat Max mRNA, complete cds
D14478	12482	BAA03369	12483	NM_001748	12484	NP_001739	12485	60	Rat pre-mature mRNA for calpain, complete cds	D14478 Rat pre-mature mRNA for calpain, complete cds /cds=UNKNOWN /gb=D14478 /gi=441195 /ug=Rn.10364 /len=2641
D14819	12486	BAA03557	12487	NM_016257	12488	NP_057341	12489	97	Rat mRNA for calcium-binding protein P23k beta, partial cds	D14819 RATCBPP23B Rat mRNA for calcium-binding protein P23k beta, partial cds
D14987	12490	BAA03632	12491	L20000	12492	AAA35758	12493	60	Rat hydroxysteroid sulfotransferase mRNA, complete cds	rc_AA945589 EST201088 Rattus norvegicus cDNA, 3' end /clone=RLIAP44 /clone_end=3' /gb=AA945589 /ug=Rn.2151 /len=569
D14987	12494	BAA03632	12495	L20000	12496	AAA35758	12497	60	Rat hydroxysteroid sulfotransferase mRNA, complete cds	EST201088 Rattus norvegicus cDNA, 3' end /clone=RLIAP44 /clone_end=3' /gb=AA945589 /ug=Rn.2151 /len=569

Table 3.

D16443	12498	BAA03912	12499				Null		Prostaglandin E2 receptor EP3 subtype isoform	D16443 RATREP3B Rat mRNA for prostaglandin E2 receptor EP3 subtype isoform, complete cds
D16443	12500	BAA03912	12501				Null		Prostaglandin E2 receptor EP3 subtype isoform	D16443 RATREP3B Rat mRNA for prostaglandin E2 receptor EP3 subtype isoform, complete cds
D17370	12502	CAA37547	12503	S52784			12504	12505	CTL target antigen	RATCGL Rat mRNA for cystathionine gamma-lyase, complete cds
D17695	12506	BAA04559	12507	NM_004925			12508	12509	Water channel aquaporin 3 (AQP3)	D17695 RATAQP3 Rat mRNA for water channel aquaporin 3 (AQP3), complete cds
D25290	12510	P55280	12511	D31784			12512	12513	Cadherin 6 (K-cadherin)	D25290 Rat mRNA for K-cadherin, complete cds /cds=(183,2552) /gb=D25290 /gi=435460 /ug=Rn.10390 /len=3631
D26500	12514	BAA05508	12515	NM_001372			12516	12517	Dynein-like protein 9A, partial cds	D26500 RATDLP9A Rat mRNA for dynein-like protein 9A, partial cds
D49955	12518	BAA08710	12519	XM_003594			XP_003594	78	Rat mRNA for bone marrow stromal cell antigen 1 (BST-1)	D49955 Rat mRNA for bone marrow stromal cell antigen 1 (BST-1), complete cds /cds=(18,977) /gb=D49955 /gi=1255901 /ug=Rn.10728 /len=1411
D63761	12520	P56522	12521	J03826			12522	12523	Adrenodoxin reductase	D63761 Rattus norvegicus mRNA for adrenodoxin reductase, complete cds /cds=(22,1506) /gb=D63761 /gi=2665453 /ug=Rn.10860 /len=1786
D64046	12524	BAA10926	12525	NM_005027			12526	12527	phosphatidylinositol 3-kinase p85 subunit	D64046 Rat mRNA for phosphatidylinositol 3-kinase p85 beta subunit, complete cds /cds=(0,2168) /gb=D64046 /gi=1246389 /ug=Rn.22497 /len=2169
D82074	12528	BAA11535	12529	XM_002573			12530	12531	BHF-1	D82074 RATBHF1MA Rattus sp. mRNA for BHF-1, complete cds

Table 3.

D82883	12532	O70531	12533	U14528	12534	P50443	12535	81	Rattus norvegicus mRNA for sulfate transporter, complete cds	D82883 Rattus norvegicus mRNA for sulfate transporter, complete cds /cds=(507,2726) /gb=D82883 /gi=3123709 /ug=Rn.14549 /len=2877
D83349	12536	BAA11895	12537	XM_008821		XP_008821		54	Short type PB-cadherin	Rat mRNA for short type PB-cadherin, complete cds /cds=(519,2603) /gb=D83349 /gi=1398911 /ug=Rn.11397 /len=4153
D84418	12538	P52925	12539	X62534	12540	2001363A	12541	98	High mobility group protein 2	D84418 Rat mRNA for chromosomal protein HMG2, complete cds /cds=(74,706) /gb=D84418 /gi=1304192 /ug=Rn.2874 /len=1072
D84480	12542	NM_000989	12543	NP_000980	12544			92	Rat PMSG-induced ovarian mRNA, 3'sequence, N2	D84480 RATPMSG Rat PMSG-induced ovarian mRNA, 3'sequence, N2
D84482	12545	XM_047666		XP_047666				87n	Rat PMSG-induced ovarian mRNA, 3'sequence, N4	D84482 RAT3HN4 Rat PMSG-induced ovarian mRNA, 3'sequence, N4
D84667	12546	BAA18969	12547	U81802	12548	AAC51156	12549	93	Phosphatidylinositol 4-kinase	D84667 Rattus norvegicus mRNA for phosphatidylinositol 4-kinase, complete cds
D86580	12550	BAA13127	12551	NM_021969	12552	NP_068804	12553	75	Rattus norvegicus mRNA for small heterodimer partner	D86745cds S1 Rat DNA for small heterodimer partner homologue, exon 1

Table 3.

D86580	12554	BAA13127	12555	NM_021969	12556	NP_068804	12557	75	Rattus norvegicus mRNA for small heterodimer partner homolog	D86745	D86745cds S1 Rat DNA for small heterodimer partner homologue, exon 1 D87840 Rattus norvegicus mRNA for madcam 1, complete cds /cds=(13,1197) /gb=D87840 /gi=2982666 /ug=Rn.9906 /len=1279
D87840	12558	BAA25260	12559	XM_054716		XP_054716		54	Madcam 1		
D88586	12560	P70709	12561	X15161	12562	P12724	12563	55	Rat mRNA for eosinophil cationic protein, complete cds		D88586 Rat mRNA for eosinophil cationic protein, complete cds /cds=(63,530) /gb=D88586 /gi=1669582 /ug=Rn.10626 /len=711
D89514	12564	BAA22837	12565	D82348	12566	BAA11559	12567	91	5-aminimidazole-4-carboxamide ribonucleotide formyltransferase/IMP cyclohydrolase, complete cds		D89514 Rattus norvegicus mRNA for 5-aminimidazole-4-carboxamide ribonucleotide formyltransferase/IMP cyclohydrolase, complete cds /cds=(55,1833) /gb=D89514 /gi=2541905 /ug=Rn.11052 /len=1928
D90048	12568	BAA14101	12569	NM_001678	12570	NP_001669	12571	100	Na ⁺ ,K ⁺ -ATPase beta2 subunit		D90048exon RATATPB2S Rat Na ⁺ , K ⁺ -ATPase (EC 3.6.1.3) beta2 subunit gene and 5' flank
D90048	12572	BAA14101	12573	NM_001678	12574	NP_001669	12575	100	Na ⁺ ,K ⁺ -ATPase beta2 subunit		D90048exon RATATPB2S Rat Na ⁺ , K ⁺ -ATPase (EC 3.6.1.3) beta2 subunit gene and 5' flank
J00692	12576	CAA24529	12577	NM_001100	12578	NP_001091	12579	100	actin	V01218	J00692 Rat skeletal muscle alpha-actin gene, complete cds /cds=(12,1145) /gb=J00692 /gi=202690 /ug=Rn.11381 /len=1384

Table 3.

J00797	12580	AAA42306	12581	AF141347	12582	AAD33871	12583	97	Rat alpha-tubulin gene, exon 1	J00797cds RATTUBAL1 Rat alpha-tubulin gene, exon 1
J01435	12584			Null					Mitochondrial genome - cytochrome oxidase apolipoprotein C-III	J01435cds#8 RATMTCYOS Rattus norvegicus mitochondrial cytochrome oxidase subunits I,II, III genes, ATPase subunit 6 gene, Trp-,Ala-,Asn-,Cys-, Tyr-, Ser(ucn)-, Asp-, Lys-, Gly-, Arg-, His-, Ser(agy)-, Leu(cun)-tRNAs
J02596	12585	AAA40746	12586	NM_000040	12587	NP_000031	12588	44		J02596cds RATAPOA02 Rat apolipoprotein C-III gene, complete cds
J02749	12589	JT0551	12590	X12966	12591	XUHUAB	12592	86	Acetyl-CoA acyltransferase, 3-oxo acyl-CoA thiolase A, peroxisomal	J02749 Rat peroxisomal 3-ketoacyl-CoA thiolase mRNA, complete cds /cds=(25,1299) /gb=J02749 /gi=205096 /ug=Rn.8913 /len=1580
J02749	12593	JT0551	12594	X12966	12595	XUHUAB	12596	86	Acetyl-CoA acyltransferase, 3-oxo acyl-CoA thiolase A, peroxisomal	J02749 Rat peroxisomal 3-ketoacyl-CoA thiolase mRNA, complete cds /cds=(25,1299) /gb=J02749 /gi=205096 /ug=Rn.8913 /len=1580
J03179	12597	AAA41083	12598	NM_001352	12599	NP_001343	12600	68	D-binding protein	J03179 Rat D-binding protein mRNA, complete cds /cds=(367,1344) /gb=J03179 /gi=203942 /ug=Rn.11274 /len=1622
J03179	12601	AAA41083	12602	NM_001352	12603	NP_001343	12604	68	D-binding protein	J03179 Rat D-binding protein mRNA, complete cds /cds=(367,1344) /gb=J03179 /gi=203942 /ug=Rn.11274 /len=1622
J03637	12605	AAA40713	12606	BC004370	12607	AAH04370	12608	81	Aldehyde dehydrogenase	J03637 Rat aldehyde dehydrogenase mRNA, complete cds /cds=(173,1534) /gb=J03637 /gi=202832 /ug=Rn.9810 /len=1725
J03806	12609	A31317	12610	M34667	12611	P19174	12612	96	Phospholipase C, gamma 1	J03806 Rat phospholipase C mRNA, complete cds /cds=(94,3966) /gb=J03806 /gi=206323 /ug=Rn.11243 /len=5106

Table 3.

J03914	12613	AAA41296	12614	XM_002155	12615	XP_002155	12616	80	Rat glutathione S-transferase Y-b subunit mRNA, 3' end	J02592	J02592 Rat glutathione S-transferase Y-b subunit mRNA, 3' end /cds=(0,560) /gb=J02592 /gi=204498 /ug=Rn.625 /len=909
J04591	12617	AAA41096	12618	M80536	12619	AAA52308	12620	81	Dipeptidyl peptidase IV		J04591 Rat dipeptidyl peptidase IV (DPP) mRNA, complete cds /cds=(88,2391) /gb=J04591 /gi=203973 /ug=Rn.1862 /len=4835
J04807	12621	NP_062003	12622	NM_000207	12623	NP_000198	12624	84	Rattus norvegicus Insulin 2	NM_019130	J04807mRNA RATINSIIA Rat insulin II gene mRNA, 3' end
K03045	12625	AAB06955	12626	NM_006744	12627	NP_006735	12628	87	Retinol-binding protein	U63146	K03045cds RATRBP02 Rat retinol-binding protein (RBP) gene, exon 5
K03045	12629	AAB06955	12630	NM_006744	12631	NP_006735	12632	85	Retinol-binding protein	U63146	K03045cds RATRBP02 Rat retinol-binding protein (RBP) gene, exon 5
L00088	12633	AAA98533	12634	XM_030823	12635	XP_030823	12636	85	myosin light chain		L00088expanded_cds#2 Rat fast myosin alkali light chain /cds=(75,527) /gb=L00088 /gi=205473 /ug=Rn.6647 /len=810
L01702	12637	AAA41983	12638	X53364	12639	CAA37447	12640	89	Tyrosine-phosphatase (LRP)		L01702 Rat protein-tyrosine-phosphatase (LRP) mRNA, complete cds /cds=(10,2400) /gb=L01702 /gi=206492 /ug=Rn.18043 /len=2935
L03294	12641	Q06000	12642	M15856	12643	LIHUL	12644	92	Lipoprotein lipase		L03294 Rattus norvegicus lipoprotein lipase mRNA, complete cds /cds=(174,1598) /gb=L03294 /gi=205214 /ug=Rn.3834 /len=3617
L03294	12645	Q06000	12646	M15856	12647	LIHUL	12648	92	Lipoprotein lipase		L03294 Rattus norvegicus lipoprotein lipase mRNA, complete cds /cds=(174,1598) /gb=L03294 /gi=205214 /ug=Rn.3834 /len=3617
L03294	12649	Q06000	12650	M15856	12651	LIHUL	12652	92	Lipoprotein lipase		Rattus norvegicus lipoprotein lipase mRNA, complete cds /cds=(174,1598) /gb=L03294 /gi=205214 /ug=Rn.3834 /len=3617

Table 3.

L04485	12653	AAA41571	12654	NM_002755	12655	NP_002746	12656	90	MAP kinase kinase	L04485 mRNA RATMAPKK Rattus norvegicus MAP kinase mRNA, complete cds
L05557	12657	AAB60703	12658	J04027	12659	P20020	12660	57	Rat plasma membrane calcium ATPase isoform 2 gene, exon n+3 and partial cds	L05557 cds RATPMCA2A4 Rat plasma membrane calcium ATPase isoform 2 gene, exon n+3 and partial cds
L05557	12661	AAB60703	12662	XM_052353	12663	XP_052353	12664	98	plasma membrane calcium ATPase	L05557 cds RATPMCA2A4 Rat plasma membrane calcium ATPase isoform 2 gene, exon n+3 and partial cds
L07315	12665	AAA41094	12666	NM_004413	12667	NP_004404	12668	71	Dipeptidase 1	L07315 Rat dipeptidase (dpep1) mRNA, complete cds /cds=(129,1361) /gb=L07315 /gi=459932 /ug=Rn.6051 /len=2179
L08493	12669	AAC42032	12670	NM_000809	12671	NP_000800	12672	79	GABA-A receptor alpha-4 subunit gene, complete cds	L08493 cds RATGABAAE Rattus rattus GABA-A receptor alpha-4 subunit gene, complete cds
L10152	12673	XM_029358		XP_029358				86n	System y+ basic (cationic) amino acid transporter	L10152 RATCAATRA Rattus norvegicus system y+ basic (cationic) amino acid transporter mRNA, mature peptide
L11587	12674	AAC37656	12675	XM_016527		XP_016527		65	Rat leukocyte common antigen-related phosphatase (LAR-PTP2)	L11587 Rat leukocyte common antigen-related phosphatase (LAR-PTP2) mRNA, complete cds /cds=(184,5775) /gb=L11587 /gi=205134 /ug=Rn.17237 /len=6469

Table 3.

L13202	12676	AAA41319	12677	NM_012183	12678	NP_036315	12679	HNF-3/fork-head homolog-2 [Rattus norvegicus] BLINK	100	L13202 RATHFH2 Rattus norvegicus HNF-3/fork-head homolog-2 (HFH-2) mRNA, complete cds
L13202	12680	AAA41319	12681	NM_012183	12682	NP_036315	12683	HNF-3/fork-head homolog-2 [Rattus norvegicus] BLINK	100	L13202 RATHFH2 Rattus norvegicus HNF-3/fork-head homolog-2 (HFH-2) mRNA, complete cds
L13237	12684			Null				Polymeric immunoglobulin receptor mRNA, 3' untranslated sequence	No Human	L13237UTR#1 RATPOLIGRB Rattus norvegicus polymeric immunoglobulin receptor mRNA, 3' untranslated sequence
L15453	12685	AAA40855	12686	XM_046514		XP_046514		Voltage-activated calcium channel alpha-1 subunit	84	L15453 Rattus norvegicus voltage-activated calcium channel alpha-1 subunit (rbe-ii) mRNA, complete cds /cds=(194,6862) /gb=L15453 /gi=310082 /ug=Rn.10742 /len=7325
L17127	12687	AAA42054	12688	BC008314	12689	AAH08314	12690	proteasome RN3 subunit	92	L17127 RATRN3 Rattus norvegicus proteasome RN3 subunit mRNA, complete cds
L17127	12691	AAA42054	12692	BC008314	12693	AAH08314	12694	proteasome RN3 subunit	92	L17127 RATRN3 Rattus norvegicus proteasome RN3 subunit mRNA, complete cds

Table 3.

L19112	12695	g310149	X56191	12696	Q01742	12697	90	Rat (clone R2(A3B)) heparin-binding fibroblast growth factor receptor 2 (extracellular domain) mRNA, partial cds	L19112 Rat (clone R2(B3C)) heparin-binding fibroblast growth factor receptor 2 (extracellular domain) mRNA, partial cds /cds=(0,1061) /gb=L19112 /gi=310150 /ug=Rn.12732 /len=1062
L19180	12698	S46217	U35234	12700	2204414A	12701	93	Protein tyrosine phosphatase , receptor type, D	L19180 Rat receptor-linked protein tyrosine phosphatase (PTP-P1) mRNA, complete cds /cds=(30,4517) /gb=L19180 /gi=310201 /ug=Rn.17237 /len=5396
L19180	12702	S46217	U35234	12704	2204414A	12705	93	Protein tyrosine phosphatase , receptor type, D	Rat receptor-linked protein tyrosine phosphatase (PTP-P1) mRNA, complete cds /cds=(30,4517) /gb=L19180 /gi=310201 /ug=Rn.17237 /len=5396
L20823	12706	AAA03044	NM_001980	12708	NP_001971	12709	83	syntaxin 2.	L20823 Rattus norvegicus syntaxin 2 mRNA, complete cds /cds=(0,872) /gb=L20823 /gi=349312 /ug=Rn.10623 /len=911
L22655	12710	AAA91898	AB022653	12712	751423A			Ig kappa chain	L22655 Rat anti-acetylcholine receptor antibody gene, kappa-chain, VJC region, complete cds /cds=(20,736) /gb=L22655 /gi=1220489 /ug=Rn.1749 /len=934
L23088	12713	AAA60325	AL022146	12715	CAA18143	12716	73	P-selectin	L23088 Rattus norvegicus P-selectin mRNA, complete cds /cds=(18,2324) /gb=L23088 /gi=349552 /ug=Rn.10012 /len=3185
L24897	12717	AAA72046	XM_052590	12719	XP_052590	12720	86	myosin heavy chain	L24897 Rattus norvegicus myosin heavy chain mRNA, 3' end /cds=(0,548) /gb=L24897 /gi=406108 /ug=Rn.10092 /len=649

Table 3.

L26525	12721	AAA21089	12722	XM_004559	XP_004559	80	tyrosine kinase receptor (Ptk-3) gene	L26525 Rattus norvegicus tyrosine kinase receptor (Ptk-3) gene, complete cds /cds=(0,2732) /gb=L26525 /gi=432480 /ug=Rn.7807 /len=2733
L26913	12723	AAA16478	12724	U10307	AAA83738	55	Rattus Norvegicus interleukin-13 (IL-13)	L26913 Rattus Norvegicus interleukin-13 (IL-13) mRNA, complete cds /cds=(0,395) /gb=L26913 /gi=438875 /ug=Rn.9921 /len=443
L27075	12727			Null			ATP-citrate lyase	L27075 Rat ATP-citrate lyase mRNA, exons 1-7 /cds=UNKNOWN /gb=L27075 /gi=436002 /ug=Rn.996 /len=13553
L27651	12728	AAA57157	12729	AF097518	AAD37091	79	Solute carrier family 22 (organic anion transporter), member 7	L27651 Rattus norvegicus liver-specific transport protein mRNA, complete cds /cds=(73,1680) /gb=L27651 /gi=529589 /ug=Rn.10009 /len=1910
L27651	12732	AAA57157	12733	AF097518	AAD37091	79	Solute carrier family 22 (organic anion transporter), member 7	Rattus norvegicus liver-specific transport protein mRNA, complete cds /cds=(73,1680) /gb=L27651 /gi=529589 /ug=Rn.10009 /len=1910
L31619	12736	AAC33136	12737	NM_000746	NP_000737	87	C holinergic receptor, nicotinic, alpha polypeptide 7 (neuronal nicotinic acetylcholine receptor alpha 7) (bungarotoxin alpha)	Rattus rattus nicotinic acetylcholine receptor alpha 7 subunit mRNA, complete cds /cds=(22,1530) /gb=L31619 /gi=468919 /ug=Rn.9698 /len=2105

Table 3.

L32601	12740	P51652	12741	D17793	12742	P42330	12743	71	Rat mRNA for 20-alpha-hydroxysteroid dehydrogenase (20-alpha-HSD), complete cds	L32601 RAT20AHYDE Rat 20 alpha-hydroxysteroid dehydrogenase mRNA, complete cds
L35921	12744	AAA73553	12745	NM_033258	12746	NP_150283	12747	98	GTP-binding protein gamma subunit	L35921 Rattus norvegicus GTP-binding protein gamma subunit (Ggamma8) mRNA, complete cds /cds=(220,432) /gb=L35921 /gi=625158 /ug=Rn.11233 /len=560
L47281	12748	AAB72238	12749	NM_000091	12750	NP_000082	12751	91	Rattus norvegicus alpha-3 type IV collagen (COL4A3) mRNA, partial cds	RATCOL4R Rattus norvegicus alpha-3 type IV collagen (COL4A3) mRNA, partial cds
L81136	12752	AAB61953	12753	XM_034464		XP_034464		62	Rattus norvegicus (strain R21) Rps2r1 preliminary DNA	L81136cds RATRPS2R1A Rattus norvegicus (strain R21) Rps2r1 preliminary DNA, complete cds
M10068	12754	AAA41064	12755	AB051763	12756	BAB18572	12757	90	Rat NADPH-cytochrome P-450 oxidoreductase	M10068mRNA RATCYPOXM Rat NADPH-cytochrome P-450 oxidoreductase mRNA, complete cds
M10094	12758	I54531		I38874	12759	Null		75	RT1 class Ib gene	M10094 Rat MHC class I truncated cell surface antigen mRNA /cds=(0,320) /gb=M10094 /gi=205412 /ug=Rn.3577 /len=628

Table 3.

M10094	12760	154531	138874	12761	138874	75	RT1 class Ib gene	Rat MHC class I truncated cell surface antigen mRNA /cds=(0,320) /gb=M10094 /gi=205412 /ug=Rn.3577 /len=628
M10140	12762	AAA40935	12763	12764	XP_030967	89	skeletal muscle creatine kinase composite	M10140 Rat skeletal muscle creatine kinase composite mRNA, complete cds /cds=(69,1214) /gb=M10140 /gi=203477 /ug=Rn.10756 /len=1410
M11266	12766	AAA41767	12767	12768	NP_000522	91	Ornithine transcarbamylase	M11266 Rat ornithine transcarbamylase mRNA /cds=(100,1164) /gb=M11266 /gi=205871 /ug=Rn.2391 /len=1519
M11851	12770	AAA41621	12771	12772	AAB91993	87	Rat heart myosin light chain 2 (MLC2) mRNA, 3' end	Rat heart myosin light chain 2 (MLC2) mRNA, 3' end /cds=(41,538) /gb=M11851 /gi=205476 /ug=Rn.17003 /len=610
M12579	12774	AAA41263	12775	12776	CAA25526	71	hypothalamic gonadotropin-releasing hormone and prolactin release-inhibiting factor	M12579 Rat hypothalamic gonadotropin-releasing hormone and prolactin release-inhibiting factor mRNA, complete cds /cds=(32,310) /gb=M12579 /gi=204445 /ug=Rn.9922 /len=456
M15427	12778	AAA42001	12779	12780	NP_002871	95	raf protein	M15427 Rat c-raf protooncogene mRNA encoding raf protein, complete cds /cds=(40,1986) /gb=M15427 /gi=206544 /ug=Rn.5936 /len=2524
M15481	12782	AAA41387	12783		XP_052652	92	Insulin-like growth factor I (IGF-I)	M15481 Rat insulin-like growth factor I (IGF-I) mRNA, complete cds /cds=(793,1176) /gb=M15481 /gi=204753 /ug=Rn.6282 /len=1346
M18528	12784	AAA41404	S65921	12785	AAB28160	70	Immunoglobulin kappa-chain	M18528cds RATIGKAG Rat (R.leucopus cooktownensis) Ig germline kappa-chain C-region gene, 3' end

Table 3.

M18853	12787	AAA42207	M15565	12788	AAA60627	12789	55	T-cell receptor alpha-chain C-region precursor	L37966	L37966mRNA RATTCTCRAT Rattus norvegicus T-cell receptor alpha-chain mRNA
M18853	12790	AAA42207	M15565	12791	AAA60627	12792	55	T-cell receptor alpha-chain C-region precursor	L37966	L37966mRNA RATTCTCRAT Rattus norvegicus T-cell receptor alpha-chain mRNA
M19357	12793	AAA40988	12794	12795	NP_008822	12796	76	Rat gamma-F-crystallin (gamma 4-1) gene, complete cds		M19357cds RATCRYGF Rat gamma-F-crystallin (gamma 4-1) gene, complete cds
M19359	12797	P10065	12798	12799	P11844	12800	83	Gamma-A-crystallin gene		M19359mRNA#2 Rat gamma-crystallin gene cluster, encoding gamma-A (gamma 1-1), gamma-B (gamma 1-2), gamma-C (gamma 2-1), gamma-D (gamma 2-2), and gamma-E (gamma 3-1) crystallins, complete cds /cds=(27,551) /gb=M19359 /gi=203626 /ug=Rn.10805 /len=618
M19359	12801	AAA40981	12802	XM_002458	XP_002458		83	gamma-A-crystallin	X14115	X14115 Rat DNA for B2 repeat (1-12) from gamma crystallin gene cluster.
M19359	12803	P10065	12804	12805	P11844	12806	83	Gamma-A-crystallin gene		M19359mRNA#2 Rat gamma-crystallin gene cluster, encoding gamma-A (gamma 1-1), gamma-B (gamma 1-2), gamma-C (gamma 2-1), gamma-D (gamma 2-2), and gamma-E (gamma 3-1) crystallins, complete cds /cds=(27,551) /gb=M19359 /gi=203626 /ug=Rn.10805 /len=618
M19359	12807	AAA40981	12808	XM_002458	XP_002458		83	gamma-A-crystallin	X14115	X14115 Rat DNA for B2 repeat (1-12) from gamma crystallin gene cluster.
M22366	12809	AAA42083	12810	XM00033	CAA24917	12812	67	MHC RT1.B-alpha precursor	X07551	X07551cds RNRT1BA2 Rat MHC RT1.B-alpha gene for class II antigen exons 2-5

Table 3.

M22670	12813	NP_036620	12814	XM_006925	12815	XP_006925	12816	70	Rat alpha-2-macroglobulin gene, exons 5 and 6	NM_012488	M22670cds RATMGAA24 Rat alpha-2-macroglobulin gene, exons 5 and 6
M22670	12817	NP_036620	12818	XM_006925	12819	XP_006925	12820	70	Rat alpha-2-macroglobulin gene, exons 5 and 6	NM_012488	M22670cds RATMGAA24 Rat alpha-2-macroglobulin gene, exons 5 and 6
M22993	12821	AAA79025	12822	NM_002864	12823	NP_002855	12824	60	Alpha-1-inhibitor III	J03552	M22993cds RATA1INH3Z Rattus norvegicus alpha-1 inhibitor III (alpha-1-13) gene, exons 1-3
M23889	12825	AAA42217	AJ301409		12826	CAC34114		67	Rat T-cell receptor beta-chain mRNA V-region (V-D-J-C), clone CRTB188		M23889 RATTCBVI Rat T-cell receptor beta-chain mRNA V-region (V-D-J-C), clone CRTB188
M23889	12827	AAA42217	AJ301409		12828	CAC34114		67	Rat T-cell receptor beta-chain mRNA V-region (V-D-J-C), clone CRTB188		M23889 RATTCBVI Rat T-cell receptor beta-chain mRNA V-region (V-D-J-C), clone CRTB188
M23890	12829	AAA42218	U66061		12830	AAC80215		81	Rat T-cell receptor unproductive beta-chain mRNA V-region (V-D-J-C), clone CRTB320		M23890 Rat T-cell receptor unproductive beta-chain mRNA V-region (V-D-J-C), clone CRTB320 /cds=(0,329) /gb=M23890 /gi=207211 /ug=Rn.9951 /len=372
M23995	12831	AAA40718	12832	M31994	12833	P00352	12834	78	Aldehyde dehydrogenase mRNA, complete cds		M23995 Rat aldehyde dehydrogenase mRNA, complete cds /cds=(45,1550) /gb=M23995 /gi=202845 /ug=Rn.9811 /len=2024

Table 3.

M23995	12835	AAA40718	12836	M31994	12837	P00352	12838	78	Aldehyde dehydrogenase mRNA, complete cds	M23995 Rat aldehyde dehydrogenase mRNA, complete cds /cds=(45,1550) /gb=M23995 /gi=202845 /ug=Rn.9811 /len=2024
M25350	12839	AAB96560	12840	XM_040630		XP_040630		96	Rat cAMP phosphodiesterase (PDE4)	M25350 RATPHOCAMB Rat cAMP phosphodiesterase (PDE4) mRNA, partial cds U95748
M25350	12841	AAB96560	12842	XM_040630		XP_040630		96	Rat cAMP phosphodiesterase (PDE4)	RATPHOCAMB Rat cAMP phosphodiesterase (PDE4) mRNA, partial cds U95748
M25804	12843	AAA74939	12844	NM_021724	12845	NP_068370	12846	88	Rev-erbA-alpha protein	M25804 Rat Rev-ErbA-alpha protein mRNA, complete cds /cds=(501,2027) /gb=M25804 /gi=514963 /ug=Rn.10105 /len=2297
M25804	12847	AAA74939	12848	NM_021724	12849	NP_068370	12850	88	Rev-erbA-alpha protein	M25804 Rat Rev-ErbA-alpha protein mRNA, complete cds /cds=(501,2027) /gb=M25804 /gi=514963 /ug=Rn.10105 /len=2297
M27293	12851	AAA41384	12852	NM_000875	12853	NP_000866	12854	94	Insulin-like growth factor-I receptor (IGF-I)	M27293 RATIGFI Rat insulin-like growth factor-I receptor (IGF-I), complete cds
M31032	12855	AAA40969	12856	NM_007244	12857	NP_009175	12858	84n	Rat contiguous repeat polypeptides (CRP) mRNA, complete cds	M31032mRNA#2 RATCRP01 Rat contiguous repeat polypeptides (CRP) mRNA, complete cds

Table 3.

M31032	12859	AAA40969	12860	NM_007244	12861	NP_009175	12862	84n	Rat contiguous repeat polypeptides (CRP) mRNA, complete cds	M31032mRNA#2 RATCRP01 Rat contiguous repeat polypeptides (CRP) mRNA, complete cds
M31725	12863	AAA42201	12864	NM_005076	12865	NP_005067	12866	86	Rat axonal glycoprotein (TAG-1)	M31725 Rat axonal glycoprotein (TAG-1), mRNA, complete cds /cds=(223,3345) /gb=M31725 /gi=207148 /ug=Rn.9945 /len=5040
M33312	12867	P11711	12868	U22028	12869	Q16696	12870	71	Cytochrome P450 IIA1 (hepatic steroid hydroxylase IIA1) gene	M33312cds RATCYP2A1 Rat hepatic steroid hydroxylase IIA1 (CYP2A1) gene, complete cds
M34134	12871	P18342	12872	M19713	12873	P09493	12874	94	Tropomyosin 1 (alpha)	M34134 Rat brain alpha-tropomyosin (TMBR-2) mRNA, complete cds /cds=(136,891) /gb=M34134 /gi=207356 /ug=Rn.1033 /len=1004
M34238	12875	AAA40889	12876	NM_002505	12877	NP_002496	12878	55	CCAAT binding transcription factor-B subunit (CBF-B)	M34238 Rat CCAAT binding transcription factor-B subunit (CBF-B) mRNA, complete cds /cds=(170,1195) /gb=M34238 /gi=203356 /ug=Rn.10747 /len=1415
M35270	12879	AAA42169	12880	NM_000030	12881	NP_000021	12882	76	Alanine-glyoxylate aminotransferase (Serine-pyruvate aminotransferase)	M35270completeSeq RATSPA Rat serine pyruvate aminotransferase mRNA, complete cds

Table 3.

M35270	12883	AAA42169	12884	NM_000030	12885	NP_000021	12886	76	Alanine-glyoxylate aminotransferase (Serine-pyruvate aminotransferase)	M35270completeSeq RATSPA Rat serine pyruvate aminotransferase mRNA, complete cds
M36151	12887	AAA41612	12888	M81141	12889	AAA59772	12890	77	MHC class II A-beta RT1.B-beta gene	M36151cds RATMHR1B Rat MHC class II A-beta RT1.B-beta gene, partial cds M37482 Rat inhibin beta-A-subunit mRNA, complete cds /cds=(162,1436) /gb=M37482 /gi=204936 /ug=Rn.9874 /len=1543
M37482	12891	AAA41436	12892	NM_002192	12893	NP_002183	12894	No Human	Inhibin beta-A	
M57672	12895	AAA57295	12896	X60069	12897	P19440	12898	71	Rat gamma-glutamyl transpeptidase mRNA, complete cds, clone 12	M57672mRNA#2 Rat gamma-glutamyltransferase gene, 5' end /cds=(275,300) /gb=M57672 /gi=204304 /ug=Rn.10010 /len=301
M58287	12899	AAA41726	12900	XM_038856		XP_038856		83	Rat non-specific lipid transfer protein (nsL-TP) mRNA, 3' end	M58287 RATNSLTP Rat non-specific lipid transfer protein (nsL-TP) mRNA, 3' end
M58495	12901	AAA41989	12902	NM_000903	12903	NP_000894	12904	82	R.norvegicus NAD(P)H: quinone reductase	M58495mRNA RATQUINA R.norvegicus NAD(P)H: quinone reductase mRNA, complete cds
M61219	12905	AAA63500	12906	NM_002634	12907	NP_002625	12908	93	prohibitin	M61219 Rat prohibitin (phb) mRNA, complete cds /cds=(11,829) /gb=M61219 /gi=206383 /ug=Rn.719 /len=1688

Table 3.

M62388	12909	AAA21087	12910	X53251	12911	CAA37339	12912	100	Ubiquitin conjugating enzyme	M62388 RATUCE Rattus norvegicus ubiquitin conjugating enzyme mRNA, complete cds
M62388	12913	AAA21087	12914	X53251	12915	CAA37339	12916	100	Ubiquitin conjugating enzyme	RATUCE Rattus norvegicus ubiquitin conjugating enzyme mRNA, complete cds
M63574	12917	AAA42129	12918	Z11793	12919	CAA77836	12920	62	selenoprotein P	rc_A1230247 EST226942 Rattus norvegicus cDNA, 3' end /clone=REMCU12 /clone_end=3'
M64378	12921	AAA41741	12922	AF399604	12923	AAK95089	12924	70	Olfactory protein	/gb=A1230247 /ug=Rn.1451 /len=466 M64378 RATOLFPD Rat olfactory protein mRNA, complete cds
M64385	12925	AAA41748	12926	AF087916	12927	AAF37309	12928	73	Olfactory protein	M64385 RATOLFPD Rat olfactory protein mRNA, complete cds
M64391	12929	AAA41754	12930	NM_003553	12931	NP_003544	12932	56	Olfactory protein mRNA	Rattus norvegicus isolate HGL-SL1 olfactory receptor pseudogene, partial sequence AF091574
M64793	12933	AAA42064	12934			Null		No Human	Rat salivary proline-rich protein (RP15) gene, complete cds	M64793 Rat salivary proline-rich protein (RP15) gene, complete cds /cds=(34,858) /gb=M64793 /gi=206711 /ug=Rn.9842 /len=1572
M67465	12935	AAA41352	12936	NM_000862	12937	NP_000853	12938	64	Rat 3-beta- hydroxysteroid dehydrogenase delta-5-ene- delta-4-ene- isomerase mRNA	M67465 Rat 3-beta-hydroxysteroid dehydrogenase/delta-5-delta-4-ene- isomerase mRNA, complete cds /cds=(84,1205) /gb=M67465 /gi=204662 /ug=Rn.11311 /len=1947
M73701	12939	AAA42149	12940	NM_003282	12941	NP_003273	12942	92	troponin I, ATPase, Na+K+ transporting, alpha 1 polypeptide	M73701 R. norvegicus troponin I mRNA, complete cds /cds=(33,581) /gb=M73701 /gi=206984 /ug=Rn.9924 /len=679
M74494	12943	AAA41670	12944	D00099	12945	P05023	12946	96		M74494 Rat sodium/potassium ATPase alpha-1 subunit truncated isoform mRNA, 3' end /cds=(0,731) /gb=M74494 /gi=205629 /ug=Rn.2992 /len=936

Table 3.

M74494	12947	AAA41670	12948	D00099	12949	P05023	12950	96	ATPase, Na+K+ transporting, alpha 1 polypeptide	Rat sodium/potassium ATPase alpha-1 subunit truncated isoform mRNA, 3' end /cds=(0,731) /gb=M74494 /gi=205629 /ug=Rn.2992 /len=936
M76740	12951	AAA41642	12952	AF007194	12953	AAC02272	12954	55	Rat intestinal mucin mRNA	M76740 RATMUCINI Rat intestinal mucin mRNA, partial cds
M76740	12955	AAA41642	12956	AF007194	12957	AAC02272	12958	55	Rat intestinal mucin mRNA, partial cds	M76740 RATMUCINI Rat intestinal mucin mRNA, partial cds
M77809	12959	AAA40813	12960	NM_003243	12961	NP_003234	12962	80	betaglycan	M77809 Rat betaglycan mRNA, complete cds /cds=(334,2895) /gb=M77809 /gi=203137 /ug=Rn.9953 /len=3931
M77850	12963	AAA40625	12964	NM_000317	12965	NP_000308	12966	87	6-pyruvoyl-tetrahydropterin synthase	M77850 Rat 6-pyruvoyl-tetrahydropterin synthase mRNA, complete cds /cds=(50,484) /gb=M77850 /gi=202560 /ug=Rn.11125 /len=1176
M80550	12967	AAA40682	12968	AB028983	12969	BAA83012	12970	94	adenylyl cyclase type II	M80550 Rat adenylyl cyclase mRNA, complete cds /cds=(69,3341) /gb=M80550 /gi=202751 /ug=Rn.10731 /len=4008
M81784	12971	XM_009465		XP_009465				88n	K+ channel	M81784 RATKCAB Rattus norvegicus K+ channel mRNA, sequence
M83107	12972	AAA40762	12973	XM_006432	12974	XP_006432	12975	97	SM22	M83107 Rat SM22 mRNA, complete cds /cds=(162,767) /gb=M83107 /gi=202982 /ug=Rn.774 /len=1169
M83567	12976	NP_036764	12977			Null		No Human	Proline-rich protein, salivary	M83567 RATPRPBA Rat basic prolin-rich protein mRNA, 3' flank
									Rat vasoactive intestinal polypeptide receptor mRNA	
M86835	12978	AAA42331	12979	XM_003226	12980	XP_003226	12981	76		M86835 Rat vasoactive intestinal polypeptide receptor mRNA, complete cds /cds=(58,1437) /gb=M86835 /gi=207640 /ug=Rn.9973 /len=3129

Table 3.

M86912	12982	CAA44183	12983	D13814	12984	BAA02968	12985	86n	Rat angiotensin receptor (AT1) gene, single exon
M87786	12986	AAA41369				Null		No Human	Immunoglobulin light chain variable region
M90310	12987	AAA42287	12988	NM_003241	12989	NP_003232	12990	52	Dorsal protein 1
M92042	12991	AAA41701	12992	NM_004784	12993	NP_004775	12994	70	Rat N-heparan sulfate sulfotransferase mRNA
M96630	12995	AAA42125	12996	XM_043841		XP_043841		100	Homologue to sec61
M96630	12997	AAA42125	12998	XM_043841		XP_043841		100	Homologue to sec61
M99223	12999	AAA40991	13000	NM_005173	13001	NP_005164	13002	72	calcium transporting ATPase
A1639453	13003			Null					EST(not recognised)
A1639453	13004			Null					EST(not recognised)
A1639495	13005	AAD56338				Null		100/91	GTP cyclohydrolase I
A1639248	13006			Null					EST (not recognised)
AF131210									
M86912exon RATAT1B Rat angiotensin receptor (AT1) gene, single exon									
M87786 RATIGCD2L Rat (hybridoma YTH655) immunoglobulin light chain variable region, complementarity-determining regions mRNA, partial cds									
M90310 Rat dorsal protein 1 (DP1) mRNA, complete cds /cds=(68,2074) /gb=M90310 /gi=207483 /ug=Rn.9964 /len=2997									
M92042 Rat N-heparan sulfate sulfotransferase mRNA, complete cds /cds=(446,3094) /gb=M92042 /gi=205702 /ug=Rn.9705 /len=4051									
M96630 RATSEC61B Rattus rattus sec61 homologue mRNA, complete cds									
RATSEC61B Rattus rattus sec61 homologue mRNA, complete cds									
M99223 Rattus norvegicus calcium transporting ATPase mRNA, complete cds /cds=UNKNOWN /gb=M99223 /gi=203644 /ug=Rn.10833 /len=3457									
Rat mixed-tissue library Rattus norvegicus cDNA clone x00152 3', mRNA sequence [Rattus norvegicus]									
Rat mixed-tissue library Rattus norvegicus cDNA clone x00152 3', mRNA sequence [Rattus norvegicus]									
Rat mixed-tissue library Rattus norvegicus cDNA clone x00371 3', mRNA sequence [Rattus norvegicus]									
Rat mixed-tissue library Rattus norvegicus cDNA clone x00371 3', mRNA sequence [Rattus norvegicus]									
Rat mixed-tissue library Rattus norvegicus cDNA clone x00379 3', mRNA sequence [Rattus norvegicus]									

Table 3.

AI639248	13007					Null				EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00379 3', mRNA sequence [Rattus norvegicus]
AI639248	13008					Null				EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00379 3', mRNA sequence [Rattus norvegicus]
AI639536	13009					Null				EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00392 3', mRNA sequence [Rattus norvegicus]
AI639518	13010	AAD19908	13011	13012	P52434	U37689	13013	98		ESTs, Highly similar to RPB8_HUM AN DNA- DIRECTED RNA POLYMERASE I, II, AND III 17.1 KD POLYPEPTIDE	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00570 3', mRNA sequence [Rattus norvegicus]
AI639015	13014					Null				EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00967 3', mRNA sequence [Rattus norvegicus]
AI639532	13015	NM_003279	13016	13017		NP_003270		90n		troponin C2, fast	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01030 3', mRNA sequence [Rattus norvegicus]
AI638991	13018					Null				EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01088 3', mRNA sequence [Rattus norvegicus]
AI639048	13019	T00057	13020			Null		87		EST, Moderately similar to T00057 hypothetical protein KIAA0423 [H.sapiens]	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01260 3', mRNA sequence [Rattus norvegicus]
AI639213	13021					Null				EST (not recognized)	

Table 3.

AI639017	13022	AAC84161	13023	XM_004192	XP_004192	88n	Mus musculus MHC class III region RD gene	AF109906	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01287 3', mRNA sequence [Rattus norvegicus]
AI639376	13024	XM_005580	13025	XP_005580	13026	92n	Homo sapiens golgi autoantigen, golgin subfamily a, 1 (GOLGA1), mRNA		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01335 3', mRNA sequence [Rattus norvegicus]
AI639376	13027	XM_005580	13028	XP_005580	13029	92n	Homo sapiens golgi autoantigen, golgin subfamily a, 1 (GOLGA1), mRNA		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01335 3', mRNA sequence [Rattus norvegicus]
AI639432	13030			Null			EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01413 3', mRNA sequence [Rattus norvegicus]
AI639465	13031			Null			EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01612 3', mRNA sequence [Rattus norvegicus]
AI639465	13032			Null			EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01612 3', mRNA sequence [Rattus norvegicus]
AI639102	13033			Null			EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01844 3', mRNA sequence [Rattus norvegicus]
AI639120	13034			Null			EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx02423 3', mRNA sequence [Rattus norvegicus]

Table 3.

AI639396	13035	R3RT25	13036	NM_001028	13037	NP_001019	13038	81	EST, Moderately similar to 40S RIBOSOMAL PROTEIN S25 [R.norvegicus]	Rat mixed-tissue library Rattus norvegicus cDNA clone rx03014 3', mRNA sequence [Rattus norvegicus]
AI639422	13039	NP_058827	13040	NM_001231	13041	NP_001222	13042	62	calsequestrin 1	Rat mixed-tissue library Rattus norvegicus cDNA clone rx03053 3', mRNA sequence [Rattus norvegicus]
AI639204	13043			Null					EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx03840 3', mRNA sequence [Rattus norvegicus]
AI639204	13044			Null					EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx03840 3', mRNA sequence [Rattus norvegicus]
AI639247	13045	AY009106	13046	AAG49397	13047			80	EST, Moderately similar to T17296 hypothetical protein DKFZp43410 92.1 [H.sapiens]	Rat mixed-tissue library Rattus norvegicus cDNA clone rx03939 3', mRNA sequence [Rattus norvegicus]
AI639076	13048			Null					EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04025 3', mRNA sequence [Rattus norvegicus]
AI639076	13049			Null					EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04025 3', mRNA sequence [Rattus norvegicus]
AI639315	13050			Null					EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04457 3', mRNA sequence [Rattus norvegicus]
AI639137	13051			Null					EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04463 3', mRNA sequence [Rattus norvegicus]
AI639345	13052			Null					EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04716 3', mRNA sequence [Rattus norvegicus]

Table 3.

AI639471	13053				Null			EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04752 3', mRNA sequence [Rattus norvegicus]
AI639471	13054				Null			EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04752 3', mRNA sequence [Rattus norvegicus]
AI639222	13055				Null			EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04860 3', mRNA sequence [Rattus norvegicus]
AI639475	13056	BAB23951	13057	XM_043922	13058	XP_043922	13059	89n	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04972 3', mRNA sequence [Rattus norvegicus]
AI639387	13060			Null				EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx05135 3', mRNA sequence [Rattus norvegicus]
AB049641	13061	BAB40846	13062	NM_014078	13063	NP_054797	13064	81n	rc_AA799440 EST188937 Rattus norvegicus cDNA, 3' end /clone=RHEAB09 /clone_end=3' /gb=AA799440 /gi=2862395 /ug=Rn.6185 /len=705
AA799448	13065			Null				EST(not recognised)	rc_AA799448 EST188945 Rattus norvegicus cDNA, 3' end /clone=RHEAB18 /clone_end=3' /gb=AA799448 /gi=2862403 /ug=Rn.8296 /len=615
AA799448	13066			Null				EST (not recognised)	rc_AA799448 EST188945 Rattus norvegicus cDNA, 3' end /clone=RHEAB18 /clone_end=3' /gb=AA799448 /gi=2862403 /ug=Rn.8296 /len=615

Table 3.

AA799449	13067	NP_032698	13068	XM_006483	13069	XP_006483	13070	86n	Mus musculus nucleosome assembly protein 1-like 4 (Nap114)	NM_008672	rc_AA799449 EST188946 Rattus norvegicus cDNA, 3' end /clone=RHEAB19 /clone_end=3' /gb=AA799449 /gi=2862404 /ug=Rn.3286 /len=553
AA799449	13071	NP_032698	13072	XM_006483	13073	XP_006483	13074	86n	Mus musculus nucleosome assembly protein 1-like 4 (Nap114)	NM_008672	rc_AA799449 EST188946 Rattus norvegicus cDNA, 3' end /clone=RHEAB19 /clone_end=3' /gb=AA799449 /gi=2862404 /ug=Rn.3286 /len=553
AA799449	13075	NP_032698	13076	XM_006483	13077	XP_006483	13078	86n	Mus musculus nucleosome assembly protein 1-like 4 (Nap114)	NM_008672	EST188946 Rattus norvegicus cDNA, 3' end /clone=RHEAB19 /clone_end=3' /gb=AA799449 /gi=2862404 /ug=Rn.3286 /len=553
AA799464	13079	AB026906	13080	BAA81889	13081			90n	SDHD gene for small subunit of cytochrome b of succinate dehydrogena se		rc_AA799464 EST188961 Rattus norvegicus cDNA, 3' end /clone=RHEAB35 /clone_end=3' /gb=AA799464 /gi=2862419 /ug=Rn.3792 /len=662
AA799479	13082	XM_006097		XP_006097				89n	NADH dehydrogena se (ubiquinone) Fe-S protein 8 (23kD)		rc_AA799479 EST188976 Rattus norvegicus cDNA, 3' end /clone=RHEAB52 /clone_end=3' /gb=AA799479 /gi=2862434 /ug=Rn.3373 /len=681

Table 3.

AA799479	13083	XM_006097	XP_006097						89n	NADH dehydrogenase (ubiquinone) Fe-S protein 8 (23kD)	EST188976 Rattus norvegicus cDNA, 3' end /clone=RHEAB52 /clone_end=3' /gb=AA799479 /gi=2862434 /ug=Rn.3373 /len=681
AA799508	13084	NP_074058	13085	NM_022818	13086	NP_073729	13087		96	Microtubule-associated proteins 1A/1B light chain 3	rc_AA799508 EST189005 Rattus norvegicus cDNA, 3' end /clone=RHEAB91 /clone_end=3' /gb=AA799508 /gi=2862463 /ug=Rn.883 /len=709
AA799526	13088	AAH11510	13089	XM_009884		XP_009884			91n	Mus musculus, Similar to small nuclear ribonucleoprotein D3 polypeptide (18kD), clone MGC:7153 IMAGE:3256 792, mRNA, complete cds	EST189023 Rattus norvegicus cDNA, 3' end /clone=RHEAC15 /clone_end=3' /gb=AA799526 /gi=2862481 /ug=Rn.6351 /len=626
AA799545	13090	NP_033966	13091	BC006501	13092	AAH06501	13093		97	chaperonin subunit 3	rc_AA799545 EST189042 Rattus norvegicus cDNA, 3' end /clone=RHEAC38 /clone_end=3' /gb=AA799545 /gi=2862500 /ug=Rn.6017 /len=633

Table 3.

AA799551	13094	S06147	13095	AB023061	13096	O95755	13097	61	ESTs, Weakly similar to S06147 GTP-binding protein rab1B - rat [R.norvegicus]	rc_AA799551 EST189048 Rattus norvegicus cDNA, 3' end /clone=RHEAC45 /clone_end=3' /gb=AA799551 /gi=2862506 /ug=Rn.11546 /len=616
AA799575	13098	CAA42210	13099	XM_031121	13100	XP_031121	13101	75	Petidiylglycine alpha-amidating monooxygenase	rc_AA799575 EST189072 Rattus norvegicus cDNA, 3' end /clone=RHEAC71 /clone_end=3' /gb=AA799575 /gi=2862530 /ug=Rn.1121 /len=588
AA799575	13102	CAA42210	13103	XM_031121	13104	XP_031121	13105	75	Petidiylglycine alpha-amidating monooxygenase	rc_AA799575 EST189072 Rattus norvegicus cDNA, 3' end /clone=RHEAC71 /clone_end=3' /gb=AA799575 /gi=2862530 /ug=Rn.1121 /len=588
AA799580	13106			Null					EST (not recognized)	rc_AA799580 EST189077 Rattus norvegicus cDNA, 3' end /clone=RHEAC76 /clone_end=3' /gb=AA799580 /gi=2862535 /ug=Rn.6206 /len=602
AA799636	13107			Null					EST(not recognised)	rc_AA799636 EST189133 Rattus norvegicus cDNA, 3' end /clone=RHEAD44 /clone_end=3' /gb=AA799636 /gi=2862591 /ug=Rn.6213 /len=591
AA799637	13108	AAD13197	13109	U09284	13110	JC2324	13111	35	ESTs, Weakly similar to A55071 hydrogen peroxide-inducible protein hic-5 mouse	rc_AA799637 EST189134 Rattus norvegicus cDNA, 3' end /clone=RHEAD45 /clone_end=3' /gb=AA799637 /gi=2862592 /ug=Rn.25425 /len=571
										AF095585

Table 3.

AA799637	13112	AAD13197	13113	U09284	13114	JC2324	13115	35	ESTs, Weakly similar to A55071 hydrogen peroxide- inducible protein hic-5 mouse	AF095585	rc_AA799637 EST189134 Rattus norvegicus cDNA, 3' end /clone=RHEAD45 /clone_end=3' /gb=AA799637 /gi=2862592 /ug=Rn.25425 /len=571
AA799650	13116	NP_071985	13117	NM_006793	13118	NP_006784	13119	84	Peroxi redoxi n 3	NM_022540	EST189147 Rattus norvegicus cDNA, 3' end /clone=RHEAD59 /clone_end=3' /gb=AA799650 /gi=2862605 /ug=Rn.2011 /len=593
AA799724	13120	NP_033113	13121	NM_015972	13122	NP_057056	13123	82	RNA polymerase 1-3 (16 kDa subunit)	NM_009087	rc_AA799724 EST189221 Rattus norvegicus cDNA, 3' end /clone=RHEAE52 /clone_end=3' /gb=AA799724 /gi=2862679 /ug=Rn.6228 /len=638
AA799801	13124	NP_065641	13125	NM_020642	13126	NP_065693	13127	70 (mus)	Predicted gene ICRFP703B1 614Q5.6	NM_020616	rc_AA799801 EST189298 Rattus norvegicus cDNA, 3' end /clone=RHEAF51 /clone_end=3' /gb=AA799801 /gi=2862756 /ug=Rn.3845 /len=596
AA799801	13128	NP_065641	13129	NM_020642	13130	NP_065693	13131	70 (mus)	Predicted gene ICRFP703B1 614Q5.6	NM_020616	rc_AA799801 EST189298 Rattus norvegicus cDNA, 3' end /clone=RHEAF51 /clone_end=3' /gb=AA799801 /gi=2862756 /ug=Rn.3845 /len=596
AA800044	13132			Null					EST(not recognised)		rc_AA800044 EST189541 Rattus norvegicus cDNA, 3' end /clone=RHEA175 /clone_end=3' /gb=AA800044 /gi=2862999 /ug=Rn.3851 /len=630
AA800148	13133	AAF22214	13134	XM_040129		XP_040129		89	syndapin IIbb	AF139495	rc_AA800148 EST189645 Rattus norvegicus cDNA, 3' end /clone=RHEAL69 /clone_end=3' /gb=AA800148 /gi=2863103 /ug=Rn.22783 /len=448

Table 3.

AA800186	13135				Null		EST (not recognized)	rc_AA800186 EST189683 Rattus norvegicus cDNA, 3' end /clone=RHEAM22 /clone_end=3' /gb=AA800186 /gi=2863141 /ug=Rn.21431 /len=437
AA800186	13136				Null		EST (not recognized)	EST189683 Rattus norvegicus cDNA, 3' end /clone=RHEAM22 /clone_end=3' /gb=AA800186 /gi=2863141 /ug=Rn.21431 /len=437
AA800202	13137				Null		EST(not recognised)	rc_AA800202 EST189699 Rattus norvegicus cDNA, 3' end /clone=RHEAM39 /clone_end=3' /gb=AA800202 /gi=2863157 /ug=Rn.6943 /len=543
AA800210	13138				Null		EST (not recognised)	rc_AA800210 EST189707 Rattus norvegicus cDNA, 3' end /clone=RHEAM47 /clone_end=3' /gb=AA800210 /gi=2863165 /ug=Rn.13244 /len=582
AA800216	13139				Null		Mus musculus 18 days embryo cDNA, RIKEN nuclear receptor binding protein (NRBP)	rc_AA800216 EST189713 Rattus norvegicus cDNA, 3' end /clone=RHEAM55 /clone_end=3' /gb=AA800216 /gi=2863171 /ug=Rn.22171 /len=618
AA800232	13140	NM_013392	13141	NP_037524	13142	89		rc_AA800232 EST189729 Rattus norvegicus cDNA, 3' end /clone=RHEAM72 /clone_end=3' /gb=AA800232 /gi=2863187 /ug=Rn.6301 /len=593
AA800319	13143			Null			EST (not recognized)	EST189816 Rattus norvegicus cDNA, 3' end /clone=RHEAN86 /clone_end=3' /gb=AA800319 /gi=2863274 /ug=Rn.8699 /len=601
AA800678	13144			Null			EST(not recognised)	rc_AA800678 EST190175 Rattus norvegicus cDNA, 3' end /clone=RLUAK20 /clone_end=3' /gb=AA800678 /gi=2863633 /ug=Rn.8592 /len=452

Table 3.

AA800738	13145					Null			Homo sapiens, clone IMAGE:4179 558	rc_AA800738 EST190235 Rattus norvegicus cDNA, 3' end /clone=RLUAK86 /clone_end=3' /gb=AA800738 /gi=2863693 /ug=Rn.6629 /len=581
AA800763	13146					Null			EST(not recognised)	rc_AA800763 EST190260 Rattus norvegicus cDNA, 3' end /clone=RLUAL17 /clone_end=3' /gb=AA800763 /gi=2863718 /ug=Rn.6636 /len=475
AA800800	13147					Null			EST (not recognized)	rc_AA800800 EST190297 Rattus norvegicus cDNA, 3' end /clone=RLUAL59 /clone_end=3' /gb=AA800800 /gi=2863755 /ug=Rn.1945 /len=550
AA800882	13148					Null			Mus musculus 11 days embryo head cDNA, RIKEN	rc_AA800882 EST190379 Rattus norvegicus cDNA, 3' end /clone=RLUAM60 /clone_end=3' /gb=AA800882 /gi=2863837 /ug=Rn.24136 /len=379
AA817685	13149	NP_071581	13150	XM_048473	XP_048473		88		Cytochrome b5	rc_AA817685 UI-R-A0-aa-b-12-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-aa-b-12-0-UI /clone_end=3' /gb=AA817685 /gi=2887565 /ug=Rn.1055 /len=399
AA818604	13151	NP_114177	13152	M11717	AAA52697	13154	87		Heat shock protein 70-1 (Hspa1a)	rc_AA818604 UI-R-A0-bc-h-02-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-bc-h-02-0-UI /clone_end=3' /gb=AA818604 /gi=2889343 /ug=Rn.1950 /len=516
AA819643	13155					Null			EST (not recognized)	rc_AA819643 UI-R-A0-an-f-10-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-an-f-10-0-UI /clone_end=3' /gb=AA819643 /gi=2888907 /ug=Rn.2277 /len=568
AA849036	13156	NP_058786	13157	NM_000856	NP_000847	13159	80		guanylate cyclase 1, soluble, alpha 3 (Gucy1a3),	rc_AA849036 EST191798 Rattus norvegicus cDNA, 3' end /clone=RLUAJ79 /clone_end=3' /gb=AA849036 /gi=2936576 /ug=Rn.1974 /len=629

Table 3.

AA852046	13160	Null	ovarian cathepsin B amplicon	AF057143	rc_AA852046 EST194815 Rattus norvegicus cDNA, 3' end /clone=RSPAP85 /clone_end=3' /gb=AA852046 /gi=2939586 /ug=Rn.11350 /len=424
AA858641	13161	Null	EST (not recognized)		rc_AA858641 UI-R-E0-bq-d-09-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-bq-d-09-0-UI /clone_end=3' /gb=AA858641 /gi=2948981 /ug=Rn.16559 /len=542
AA859468	13162	Null	EST (not recognized)		UI-R-E0-bv-e-04-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0- bv-e-04-0-UI /clone_end=3' /gb=AA859468 /gi=2948988 /ug=Rn.226 /len=434
AA859835	13163	Null	EST(not recognised)		rc_AA859835 UI-R-E0-cc-g-07-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cc-g-07-0-UI /clone_end=3' /gb=AA859835 /gi=2949355 /ug=Rn.784 /len=418
AA859835	13164	Null	EST(not recognised)		rc_AA859835 UI-R-E0-cc-g-07-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cc-g-07-0-UI /clone_end=3' /gb=AA859835 /gi=2949355 /ug=Rn.784 /len=418
AA859922	13165	Null	Strong homology with 18S rRNA (V01270)		rc_AA859922 UI-R-E0-cg-c-04-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cg-c-04-0-UI /clone_end=3' /gb=AA859922 /gi=2949442 /ug=Rn.819 /len=373
AA859966	13166	Null	Homo sapiens cDNA: FLJ23343 fis, clone HEP13562		UI-R-E0-ca-g-03-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0- ca-g-03-0-UI /clone_end=3' /gb=AA859966 /gi=2949486 /ug=Rn.861 /len=392
AA859996	13167	Null			rc_AA859996 UI-R-E0-ca-b-04-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-ca-b-04-0-UI /clone_end=3' /gb=AA859996 /gi=2949516 /ug=Rn.22634 /len=553

Table 3.

AA866248	13168	BAA07197	13169	NM_006452	13170	NP_006443	13171	96	Rat AIRC mRNA for AIR carboxylase-SAICAR synthetase, complete cds	D37979	UI-R-A0-bg-h-03-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-bg-h-03-0-UI /clone_end=3' /gb=AA866248 /gi=2961694 /ug=Rn.3015 /len=557
AA866485	13172			Null					EST (not recognized)		rc_AA866485 UI-R-A0-bd-e-03-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-bd-e-03-0-UI /clone_end=3' /gb=AA866485 /gi=2961697 /ug=Rn.3018 /len=406
AA874887	13173	CAA06377	13174	AB019987	13175	BAA73535	13176	100	ESTs, Weakly similar to SMC-protein [R.norvegicus]		rc_AA874887 UI-R-E0-ci-g-10-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-ci-g-10-0-UI /clone_end=3' /gb=AA874887 /gi=2979835 /ug=Rn.3162 /len=478
AA874887	13177	CAA06377	13178	AB019987	13179	BAA73535	13180	100	ESTs, Weakly similar to SMC-protein [R.norvegicus]		UI-R-E0-ci-g-10-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-ci-g-10-0-UI /clone_end=3' /gb=AA874887 /gi=2979835 /ug=Rn.3162 /len=478
AA874918	13181	AAC39971	13182	NM_003899	13183	NP_003890	13184	86	PAK-interacting exchange factor beta-PIX	AF044673	rc_AA874918 UI-R-E0-ck-g-08-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-ck-g-08-0-UI /clone_end=3' /gb=AA874918 /gi=2979866 /ug=Rn.10963 /len=519
AA875045	13185	NP_032827	13186	NM_002601	13187	NP_002592	13188	89n	phosphodiesterase 6D, cGMP-specific, rod, delta		rc_AA875045 UI-R-E0-cb-c-03-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cb-c-03-0-UI /clone_end=3' /gb=AA875045 /gi=2979993 /ug=Rn.3214 /len=543
AA875060	13189			Null					EST (not recognized)		UI-R-E0-cb-f-05-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cb-f-05-0-UI /clone_end=3' /gb=AA875060 /gi=2980008 /ug=Rn.3225 /len=548

Table 3.

AA875136	13190	NP_058756	13193	Null	13194	NP_009000	13195	78	EST(not recognized)	rc_AA875136 UI-R-E0-bu-f-02-0-UI.s2 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-bu-f-02-0-UI /clone_end=3' /gb=AA875136 /gi=2980084 /ug=Rn.2804 /len=581
AA875186	13191			Null					Mus musculus adult male colon cDNA, RIKEN	rc_AA875186 UI-R-E0-ce-h-05-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-ce-h-05-0-UI /clone_end=3' /gb=AA875186 /gi=2980134 /ug=Rn.3753 /len=403
AA875291	13192	NP_058756	13193	NM_007069	13194	NP_009000	13195	78	Hras- revertant gene 107	rc_AA875291 UI-R-E0-cn-e-02-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cn-e-02-0-UI /clone_end=3' /gb=AA875291 /gi=2980239 /ug=Rn.11377 /len=323
AA875438	13196			Null					Mus musculus adult male tongue cDNA, RIKEN	rc_AA875438 UI-R-E0-cs-h-12-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cs-h-12-0-UI /clone_end=3' /gb=AA875438 /gi=2980386 /ug=Rn.24931 /len=563
AA875563	13197	NP_033063	13198	XM_054015		XP_054015		89n	Mus musculus reticulocalbin (Rcn)	rc_AA875563 UI-R-E0-cm-b-06-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cm-b-06-0-UI /clone_end=3' /gb=AA875563 /gi=2980511 /ug=Rn.3275 /len=472
AA875635	13199			Null					EST (not recognized)	rc_AA875635 UI-R-E0-ct-f-05-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-ct-f-05-0-UI /clone_end=3' /gb=AA875635 /gi=2980583 /ug=Rn.2984 /len=367
AA891037	13200	R5RT3L	13201	U65581	13202	Q92901	13203	95	ESTs, Moderately similar to 60S RIBOSOMAL PROTEIN L3 [R.norvegicu s]	rc_AA891037 EST194840 Rattus norvegicus cDNA, 3' end /clone=RHEAO17 /clone_end=3' /gb=AA891037 /gi=3017916 /ug=Rn.16548 /len=401

Table 3.

AA891242	13204	AAB31016	13205	XM_004995	XP_004995	89n	Myosin light chain-2 isoform	S70785	rc_AA891242 EST195045 Rattus norvegicus cDNA, 3' end /clone=RHEAQ93 /clone_end=3' /gb=AA891242 /gi=3018121 /ug=Rn.3843 /len=559
AA891242	13206	AAB31016	13207	XM_004995	XP_004995	89n	Myosin light chain-2 isoform	S70785	rc_AA891242 EST195045 Rattus norvegicus cDNA, 3' end /clone=RHEAQ93 /clone_end=3' /gb=AA891242 /gi=3018121 /ug=Rn.3843 /len=559
AA891438	13208	AAF23952	13209	XM_045474	XP_045474	94n	Mus musculus pantothenate kinase 1 beta (panK1beta)	AF200357	rc_AA891438 EST195241 Rattus norvegicus cDNA, 3' end /clone=RHEAU25 /clone_end=3' /gb=AA891438 /gi=3018317 /ug=Rn.22406 /len=397
AA891438	13212	AAF23952	13213	XM_045474	XP_045474	94n	Mus musculus pantothenate kinase 1 beta (panK1beta)	AF200357	rc_AA891438 EST195241 Rattus norvegicus cDNA, 3' end /clone=RHEAU25 /clone_end=3' /gb=AA891438 /gi=3018317 /ug=Rn.22406 /len=397
AA891651	13216			Null			EST (not recognized)		rc_AA891651 EST195454 Rattus norvegicus cDNA, 3' end /clone=RKIAF13 /clone_end=3' /gb=AA891651 /gi=3018530 /ug=Rn.1318 /len=499
AA891689	13217	AF161380	13218	AAF28940	13219	89n	HSPC262		rc_AA891689 EST195492 Rattus norvegicus cDNA, 3' end /clone=RKIAF57 /clone_end=3' /gb=AA891689 /gi=3018568 /ug=Rn.14704 /len=421
AA891727	13220	XM_042640		XP_042640		92n	EST (hypothetical protein)		EST195530 Rattus norvegicus cDNA, 3' end /clone=RKIAG04 /clone_end=3' /gb=AA891727 /gi=3018606 /ug=Rn.3418 /len=418

Table 3.

AA891828	13221	BC014026	13222	AAH14026	13223				88n	Homo sapiens, Similar to RAD23	rc_AA891828 EST195631 Rattus norvegicus cDNA, 3' end /clone=RKIAH33 /clone_end=3' /gb=AA891828 /gi=3018707 /ug=Rn.6963 /len=546
AA891828	13224	AAD41775	13225	XM_029247		XP_029247			63	Procollagen, type I, alpha 2	rc_AA891828 EST195631 Rattus norvegicus cDNA, 3' end /clone=RKIAH33 /clone_end=3' /gb=AA891828 /gi=3018707 /ug=Rn.6963 /len=546
AA891857	13226	AAD40012	13227	NM_012192	13228	NP_036324		13229	92	Rattus norvegicus small zinc finger-like protein (TIM9b)	rc_AA891857 EST195660 Rattus norvegicus cDNA, 3' end /clone=RKIAH77 /clone_end=3' /gb=AA891857 /gi=3018736 /ug=Rn.13451 /len=501
AA891943	13230			Null						EST (not recognized)	rc_AA891943 EST195746 Rattus norvegicus cDNA, 3' end /clone=RKIA186 /clone_end=3' /gb=AA891943 /gi=3018822 /ug=Rn.3564 /len=550
AA892012	13231	XNRTDM	13232	M22632	13233	XNHU DM		13234	94	Glutamate oxaloacetate transaminase 2, mitochondrial (aspartate aminotransferase 2)	rc_AA892012 EST195815 Rattus norvegicus cDNA, 3' end /clone=RKIAK66 /clone_end=3' /gb=AA892012 /gi=3018891 /ug=Rn.3628 /len=363
AA892012	13235	XNRTDM	13236	M22632	13237	XNHU DM		13238	94	Glutamate oxaloacetate transaminase 2, mitochondrial (aspartate aminotransferase 2)	EST195815 Rattus norvegicus cDNA, 3' end /clone=RKIAK66 /clone_end=3' /gb=AA892012 /gi=3018891 /ug=Rn.3628 /len=363

Table 3.

AA892154	13239	NP_037292	13240	NM_006454	13241	NP_006445	13242	50	Mad4 homolog (human)	rc_AA892154 EST195957 Rattus norvegicus cDNA, 3' end /clone=RKIAN02 /clone_end=3' /gb=AA892154 /gi=3019033 /ug=Rn.3279 /len=386
AA892154	13243	NP_037292	13244	NM_006454	13245	NP_006445	13246	50	Mad4 homolog (human)	rc_AA892154 EST195957 Rattus norvegicus cDNA, 3' end /clone=RKIAN02 /clone_end=3' /gb=AA892154 /gi=3019033 /ug=Rn.3279 /len=386
AA892228	13247	NP_071568	13248	NM_006260	13249	NP_006251	13250	86	Protein-kinase, interferon-inducible double stranded RNA dependent inhibitor	rc_AA892228 EST196031 Rattus norvegicus cDNA, 3' end /clone=RKIAN91 /clone_end=3' /gb=AA892228 /gi=3019107 /ug=Rn.4183 /len=459
AA892228	13251	NM_006260	13252	NP_006251	13253			86	Protein-kinase, interferon-inducible double stranded RNA dependent inhibitor	EST196031 Rattus norvegicus cDNA, 3' end /clone=RKIAN91 /clone_end=3' /gb=AA892228 /gi=3019107 /ug=Rn.4183 /len=459
AA892468	13254	P27435	13255	L41351	13256	Q16651	13257	76	Rattus norvegicus mRNA for prostasin precursor, complete cds	rc_AA892468 EST196271 Rattus norvegicus cDNA, 3' end /clone=RKIAQ80 /clone_end=3' /gb=AA892468 /gi=3019347 /ug=Rn.22724 /len=474
AA892468	13258	P27435	13259	L41351	13260	Q16651	13261	76	Rattus norvegicus mRNA for prostasin precursor, complete cds	rc_AA892468 EST196271 Rattus norvegicus cDNA, 3' end /clone=RKIAQ80 /clone_end=3' /gb=AA892468 /gi=3019347 /ug=Rn.22724 /len=474

Table 3.

AA892551	13262					Null				EST	rc_AA892551 EST196354 Rattus norvegicus cDNA, 3' end /clone=RKIAS76 /clone_end=3' /gb=AA892551 /gi=3019430 /lug=Rn.14765 /len=112
AA892551	13263					Null				EST	rc_AA892551 EST196354 Rattus norvegicus cDNA, 3' end /clone=RKIAS76 /clone_end=3' /gb=AA892551 /gi=3019430 /lug=Rn.14765 /len=112
AA892635	13264	TVRTRH	13265	M31470	13266		TVHUC4	13267	99	Ras-like protein	rc_AA892635 EST196438 Rattus norvegicus cDNA, 3' end /clone=RKIAV15 /clone_end=3' /gb=AA892635 /gi=3019514 /lug=Rn.12720 /len=478
AA892635	13268	TVRTRH	13269	M31470	13270		TVHUC4	13271	99	Ras-like protein	EST196438 Rattus norvegicus cDNA, 3' end /clone=RKIAV15 /clone_end=3' /gb=AA892635 /gi=3019514 /lug=Rn.12720 /len=478
AA892805	13272					Null				Mus musculus adult male testis cDNA, RIKEN	rc_AA892805 EST196608 Rattus norvegicus cDNA, 3' end /clone=RKIAV50 /clone_end=3' /gb=AA892805 /gi=3019684 /lug=Rn.19944 /len=499
AA892817	13273					Null				EST (not recognized)	rc_AA892817 EST196620 Rattus norvegicus cDNA, 3' end /clone=RKIAV62 /clone_end=3' /gb=AA892817 /gi=3019696 /lug=Rn.14794 /len=650
AA892855	13274	NP_033099	13275	XM_006049			XP_006049		64(mus)	ESTs, Highly similar to ROM1 MOUSE ROD OUTER SEGMENT MEMBRANE PROTEIN 1 [M.musculus]	rc_AA892855 EST196658 Rattus norvegicus cDNA, 3' end /clone=RKIAV14 /clone_end=3' /gb=AA892855 /gi=3019734 /lug=Rn.14796 /len=532

Table 3.

AA892888	13276			Null					EST (not recognized)			rc_AA892888 EST196691 Rattus norvegicus cDNA, 3' end /clone=RK1AY54 /clone_end=3' /gb=AA892888 /gi=3019767 /ug=Rn.14801 /len=508
AA892919	13277	AAA41719	13278			Null	No Human	Nucleolar phosphoprotein of 140kD	M94288			rc_AA892919 EST196722 Rattus norvegicus cDNA, 3' end /clone=RK1AY91 /clone_end=3' /gb=AA892919 /gi=3019798 /ug=Rn.9517 /len=574
AA892919	13279	AAA41719	13280	XM_005918		XP_005918	42	nucleolar phosphoprotein of 140kD, Nopp140	M94288			rc_AA892919 EST196722 Rattus norvegicus cDNA, 3' end /clone=RK1AY91 /clone_end=3' /gb=AA892919 /gi=3019798 /ug=Rn.9517 /len=574
AA892942	13281			Null				EST (not recognized)				rc_AA892942 EST196745 Rattus norvegicus cDNA, 3' end /clone=RK1BA19 /clone_end=3' /gb=AA892942 /gi=3019821 /ug=Rn.3611 /len=511
AA893158	13282	AAA37238	13283	NM_001156	13284	NP_001147	88	synexin	L13129			rc_AA893158 EST196961 Rattus norvegicus cDNA, 3' end /clone=RK1BC88 /clone_end=3' /gb=AA893158 /gi=3020037 /ug=Rn.18916 /len=428
AA893191	13286			Null				EST(not recognised)				rc_AA893191 EST196994 Rattus norvegicus cDNA, 3' end /clone=RK1BD35 /clone_end=3' /gb=AA893191 /gi=3020070 /ug=Rn.3301 /len=654
AA893191	13287			Null				EST(not recognised)				rc_AA893191 EST196994 Rattus norvegicus cDNA, 3' end /clone=RK1BD35 /clone_end=3' /gb=AA893191 /gi=3020070 /ug=Rn.3301 /len=654
AA893210	13288	O35142	13289	X70476	13290	P35606	97	Beta prime COP				EST197013 Rattus norvegicus cDNA, 3' end /clone=RK1BD55 /clone_end=3' /gb=AA893210 /gi=3020089 /ug=Rn.11141 /len=608

Table 3.

AA893212	13292					Null				EST (Limited homology to thioredoxin reductase gene, partial cds)	rc_AA893212 EST197015 Rattus norvegicus cDNA, 3' end /clone=RKIBD58 /clone_end=3' /gb=AA893212 /gi=3020091 /ug=Rn.23943 /len=638
AA893275	13293	XM_048457	13294	XP_048457	13295				87n	Homo sapiens KIAA0892 protein	rc_AA893275 EST197078 Rattus norvegicus cDNA, 3' end /clone=RKIBE38 /clone_end=3' /gb=AA893275 /gi=3020154 /ug=Rn.22748 /len=505
AA893325	13296	NP_071966	13297	NM_000274	13298	NP_000265	13299		87	ornithine aminotransferase (Oat)	rc_AA893325 EST197128 Rattus norvegicus cDNA, 3' end /clone=RKIBF09 /clone_end=3' /gb=AA893325 /gi=3020204 /ug=Rn.1430 /len=464
AA893552	13300	AAB39509	13301	NM_006215	13302	NP_006206	13303		53	Rattus norvegicus kallistatin mRNA, complete cds	rc_AA893552 EST197355 Rattus norvegicus cDNA, 3' end /clone=RLIAD83 /clone_end=3' /gb=AA893552 /gi=3020431 /ug=Rn.11152 /len=669
AA893596	13304	AK016067	13305	BC003542	13306	AAH03542	13307		93(mus)	Mouse RIKEN full-length cDNA	rc_AA893596 EST197399 Rattus norvegicus cDNA, 3' end /clone=RPLAC38 /clone_end=3' /gb=AA893596 /gi=3020475 /ug=Rn.22237 /len=564
AA893596	13308	AK016067	13309	BC003542	13310	AAH03542	13311		93(mus)	Mouse RIKEN full-length cDNA	EST197399 Rattus norvegicus cDNA, 3' end /clone=RPLAC38 /clone_end=3' /gb=AA893596 /gi=3020475 /ug=Rn.22237 /len=564
AA893602	13312	BAA88213	13313	NM_022461	13314	NP_071906	13315		81	Mus musculus A22 mRNA	rc_AA893602 EST197405 Rattus norvegicus cDNA, 3' end /clone=RPLAC44 /clone_end=3' /gb=AA893602 /gi=3020481 /ug=Rn.14812 /len=567

Table 3.

AA893671	13316	Q63244	13317	U02310	13318	1923399A	13319	93	ESTs, Weakly similar to HFH1 RAT HEPATOCYTE NUCLEAR FACTOR 3 FORKHEAD HOMOLOG 1 [R.norvegicus]	rc_AA893671 EST197474 Rattus norvegicus cDNA, 3' end /clone=RPLA127 /clone_end=3' /gb=AA893671 /gi=3020550 /ug=Rn.22754 /len=399
AA893690	13320	NP_062308	13321	BC010665	13322	AAH10665	13323	86n	Mus musculus neuronal protein 15.6 (Np15.6-pending)	rc_AA893690 EST197493 Rattus norvegicus cDNA, 3' end /clone=RPLA147 /clone_end=3' /gb=AA893690 /gi=3020569 /ug=Rn.3377 /len=492
AA893885	13324			Null					EST (not recognized)	rc_AA893885 EST197688 Rattus norvegicus cDNA, 3' end /clone=RPLAN11 /clone_end=3' /gb=AA893885 /gi=3020764 /ug=Rn.3719 /len=392
AA893939	13325	NP_033195	13326	XM_044488		XP_044488		92n	Mus musculus split hand/foot deleted gene 1	rc_AA893939 EST197742 Rattus norvegicus cDNA, 3' end /clone=RPLAN70 /clone_end=3' /gb=AA893939 /gi=3020818 /ug=Rn.8472 /len=416
AA893985	13327			Null					EST (rare)	EST197788 Rattus norvegicus cDNA, 3' end /clone=RPLAO24 /clone_end=3' /gb=AA893985 /gi=3020864 /ug=Rn.14842 /len=400
AA894004	13328	NP_031625	13329	BC000728	13330	AAH00728	13331	87n	Mus musculus, Similar to capping protein (actin filament)	rc_AA894004 EST197807 Rattus norvegicus cDNA, 3' end /clone=RPLAO48 /clone_end=3' /gb=AA894004 /gi=3020883 /ug=Rn.8945 /len=430

Table 3.

AA894232	13332	Null							EST (not recognized)		rc_AA894232 EST198035 Rattus norvegicus cDNA, 3' end /clone=RSPAT41 /clone_end=3' /gb=AA894232 /gi=302111 /ug=Rn.13522 /len=485
AA894297	13333	Null							EST(not recognised)		rc_AA894297 EST198100 Rattus norvegicus cDNA, 3' end /clone=RSPAW18 /clone_end=3' /gb=AA894297 /gi=3021176 /ug=Rn.3510 /len=554
AA926149	13334	13335	NM_001752	13336	NP_001743	13337	88	Catalase		NM_012520	rc_AA926149 UI-R-A1-eq-h-04-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A1-eq-h-04-0-UI /clone_end=3' /gb=AA926149 /gi=3073285 /ug=Rn.3001 /len=449
AA944177	13338	13339	X12597	13340	P09429	13341	94	High mobility group 1 (Hmg1)			rc_AA944177 EST199676 Rattus norvegicus cDNA, 3' end /clone=REMAD31 /clone_end=3' /gb=AA944177 /gi=3104093 /ug=Rn.4121 /len=596
AA945573	13342	13343	NM_000769	13344	NP_000760	13345	72	Cytochrome P450, 2c39		NM_017158	EST201072 Rattus norvegicus cDNA, 3' end /clone=RLIAP18 /clone_end=3' /gb=AA945573 /ug=Rn.1247 /len=651
AA946292	13346	13347	NM_005195	13348	NP_005186	13349	81	CCAAT/enhanc er binding, protein (C/EBP) delta			EST201791 Rattus norvegicus cDNA, 3' end /clone=RLUBD38 /clone_end=3' /gb=AA946292 /ug=Rn.6975 /len=468
AA955167	13350	13351	XM_039759		XP_039759		84n	Mus musculus myristoylated alanine rich protein kinase C substrate		NM_008538	rc_AA955167 UI-R-A1-du-a-08-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A1-du-a-08-0-UI /clone_end=3' /gb=AA955167 /ug=Rn.9560 /len=443

Table 3.

AA955477	13352	CAA54183	13353	BC010407	13354	AAH10407	13355	88n	ESTs, Moderately similar to S78100 MAPK- activated protein kinase (EC 2.7.1.1.-) 2 - mouse (fragment) [M.musculus]	rc_AA955477 UI-R-A1-ex-f-01-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A1-ex-f-01-0-UI /clone_end=3' /gb=AA955477 /ug=Rn.8789 /len=394
AA963674	13356	NP_058941	13357	XM_009189	XP_009189	13367	NP_002777	96	Rattus norvegicus eukaryotic translation elongation factor 2	rc_AA963674 UI-R-E1-gg-h-01-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E1-gg-h-01-0-UI /clone_end=3' /gb=AA963674 /ug=Rn.7194 /len=333
AA963674	13358	NP_058941	13359	XM_009189	XP_009189	13367	NP_002777	96	Rattus norvegicus eukaryotic translation elongation factor 2	rc_AA963674 UI-R-E1-gg-h-01-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E1-gg-h-01-0-UI /clone_end=3' /gb=AA963674 /ug=Rn.7194 /len=333
AA998882	13360	NP_074060	13361	XM_005918	XP_005918	13367	NP_002777	42	nucleolar phosphoprot ein p130 (Nopp140)	rc_AA998882 UI-R-C0-hp-a-11-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C0-hp-a-11-0-UI /clone_end=3' /gb=AA998882 /ug=Rn.9517 /len=478
AI009098	13362	BC004560	13363	AAH04560	13364	13368	13368	92n	Similar to oxygen regulated protein (150kD)	EST203549 Rattus norvegicus cDNA, 3' end /clone=REMBI58 /clone_end=3' /gb=AI009098 /ug=Rn.983 /len=549
AI009111	13365	NP_058974	13366	NM_002786	13367	NP_002777	13368	97	Proteasome (prosome, macropain) subunit, alpha type 1	rc_AI009111 EST203562 Rattus norvegicus cDNA, 3' end /clone=REMBI74 /clone_end=3' /gb=AI009111 /ug=Rn.2668 /len=612

Table 3.

AI010357	13369	NP_068534	13370	NM_006667	13371	NP_006658	13372	79	25-Dx protein (25Dx)	NM_021766	rc_AI010357 EST204808 Rattus norvegicus cDNA, 3' end /clone=RLUBX66 /clone_end=3' /gb=AI010357 /ug=Rn.4232 /len=754
AI013795	13373	NP_073204	13374	NM_003241	13375	NP_003232	13376	52	Dorsal protein 1	NM_022713	rc_AI013795 EST208470 Rattus norvegicus cDNA, 3' end /clone=RSPBS90 /clone_end=3' /gb=AI013795 /ug=Rn.9964 /len=246
AI045558	13377	JE0155		AF041254	13378	O43615	13379	90	Translocator of inner mitochondrial membrane 44		rc_AI045558 UI-R-C1-jz-h-03-0-UI.s2 Rattus norvegicus cDNA, 3' end /clone=UI-R-C1-jz-h-03-0-UI /clone_end=3' /gb=AI045558 /ug=Rn.10801 /len=422
AI045558	13380	JE0155		XM_049282	13381	XP_049282	13382	90	Translocator of inner mitochondrial membrane 44		UI-R-C1-jz-h-03-0-UI.s2 Rattus norvegicus cDNA, 3' end /clone=UI-R-C1- jz-h-03-0-UI /clone_end=3' /gb=AI045558 /ug=Rn.10801 /len=422
AI045858	13383	XM_027074	13384	XP_027074	13385			87n	ESTs, Weakly similar to T14794 hypothetical protein DKFZp586P 1522.1 [H.sapiens]		rc_AI045858 UI-R-C1-km-e-10-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C1-km-e-10-0-UI /clone_end=3' /gb=AI045858 /ug=Rn.1740 /len=432
AI045858	13386	XM_027074	13387	XP_027074	13388			87n	ESTs, Weakly similar to T14794 hypothetical protein DKFZp586P 1522.1 [H.sapiens]		UI-R-C1-km-e-10-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C1- km-e-10-0-UI /clone_end=3' /gb=AI045858 /ug=Rn.1740 /len=432

Table 3.

AI071511	13389	T41751	AB011399	13390	P55196	13391	91	Afadin		rc_AI071511 UI-R-C2-nc-h-01-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C2-nc-h-01-0-UI /clone_end=3' /gb=AI071511 /ug=Rn.58 /len=427
AI072089	13392	JS0738	AB029042	13393	Q9UII2	13394	76	ATPase inhibitor (rat mitochondrial IF1 protein)		rc_AI072089 UI-R-C2-nf-d-09-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C2-nf-d-09-0-UI /clone_end=3' /gb=AI072089 /ug=Rn.10960 /len=438
AI102917	13395	NP_112276	D82348	13396	BAA11559	13398	91	5- aminoimidaz ole-4- carboxamide ribonucleotid e formyltransfe rase/IMP cyclohydrola se (Atic)	NM_031014	rc_AI102917 EST212206 Rattus norvegicus cDNA, 3' end /clone=REMBU84 /clone_end=3' /gb=AI102917 /gi=3707555 /ug=Rn.11052 /len=458
AI104389	13399	AAK01620	XM_032531	13400	XP_032531		86n	Mus musculus ankyrin- repeat family A protein	AI104389	rc_AI104389 EST213678 Rattus norvegicus cDNA, 3' end /clone=RHECC67 /clone_end=3' /gb=AI104389 /gi=3708757 /ug=Rn.11082 /len=488
AI104389	13401	1TOH	M20912	13402	I55282		88	Tyrosine hydroxylase		rc_AI104389 EST213678 Rattus norvegicus cDNA, 3' end /clone=RHECC67 /clone_end=3' /gb=AI104389 /gi=3708757 /ug=Rn.11082 /len=488
AI104882	13404	NP_075225	XM_005114	13405	XP_005114		71	Cytosolic epoxide hydrolase	NM_022936	rc_AI104882 EST214171 Rattus norvegicus cDNA, 3' end /clone=RHECK76 /clone_end=3' /gb=AI104882 /gi=3709128 /ug=Rn.11415 /len=401

Table 3.

AI105198	13406	NP_037162	13407	NM_003052	13408	NP_003043	13409	91	Solute carrier family 17 (sodium/hydriogen exchanger), member 2	NM_013030	EST214487 Rattus norvegicus cDNA, 3' end /clone=RKIBG82 /clone_end=3' /gb=AI105198 /ug=Rn.3542 /len=522
AI105374	13410	NP_036810	13411	NM_003290	13412	NP_003281	13413	60	Tropomyosin 4	NM_012678	rc_AI105374 EST214663 Rattus norvegicus cDNA, 3' end /clone=RKIBJ48 /clone_end=3' /gb=AI105374 /gl=3709468 /ug=Rn.11115 /len=492
AI112391	13414	NP_036769	13415	NM_002827	13416	NP_002818	13417	81	Protein-tyrosine phosphatase	NM_012637	rc_AI112391 UI-R-YO-mn-h-02-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-YO-mn-h-02-0-UI /clone_end=3' /gb=AI112391 /ug=Rn.11317 /len=316
AI136540	13418	NP_035750	13419	NM_006757	13420	NP_006748	13421	64	troponin T3, skeletal, fast (Ttn3)	NM_011620	rc_AI136540 UI-R-C2p-nq-h-04-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C2p-nq-h-04-0-UI /clone_end=3' /gb=AI136540 /ug=Rn.22504 /len=474
AI145177	13422	NP_062010	13423	XM_017593	13424	XP_017593	13425	72	Rattus norvegicus Zinc-finger transcription factor NGFI-C	NM_019137	rc_AI145177 UI-R-BT0-pt-h-08-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-BT0-pt-h-08-0-UI /clone_end=3' /gb=AI145177 /ug=Rn.9703 /len=336
AI145494	13426	D30411		U40215	13427	JC4940	13428	94	Synapsin II		UI-R-BT0-qf-f-12-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-BT0-qf-f-12-0-UI /clone_end=3' /gb=AI145494 /ug=Rn.506 /len=486
AI145494	13429	D30411		U40215	13430	JC4940	13431	94	Synapsin II		UI-R-BT0-qf-f-12-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-BT0-qf-f-12-0-UI /clone_end=3' /gb=AI145494 /ug=Rn.506 /len=486
AI145680	13432	CAA60116	13433	XM_001306		XP_001306		80	monocarboxylate transporter	X86216	rc_AI145680 UI-R-BT0-qd-b-09-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-BT0-qd-b-09-0-UI /clone_end=3' /gb=AI145680 /ug=Rn.6085 /len=464

Table 3.

AI170685	13434	BAA88301	13435	NM_005880	13436	NP_005871	13437	86	mDj3	AB028853	rc_AI170685 EST216621 Rattus norvegicus cDNA, 3' end /clone=RMJAZ92 /clone_end=3' /gb=AI170685 /gi=3710725 /ug=Rn.3904 /len=648
AI175900	13438	P41156	13439	J04101	13440	TVHUET	13441	98	transcription factor ets-1		rc_AI175900 EST219472 Rattus norvegicus cDNA, 3' end /clone=ROVBG93 /clone_end=3' /gb=AI175900 /ug=Rn.7142 /len=458
AI175900	13442	P41156	13443	J04101	13444	TVHUET	13445	98	transcription factor ets-1		rc_AI175900 EST219472 Rattus norvegicus cDNA, 3' end /clone=ROVBG93 /clone_end=3' /gb=AI175900 /ug=Rn.7142 /len=458
AI178267	13446	XM_010735		XP_010735				93n	Homo sapiens membrane protein CH1		rc_AI178267 EST221933 Rattus norvegicus cDNA, 3' end /clone=RPLCO32 /clone_end=3' /gb=AI178267 /ug=Rn.8478 /len=545
AI178267	13447	XM_010735		XP_010735				93n	Homo sapiens membrane protein CH1		rc_AI178267 EST221933 Rattus norvegicus cDNA, 3' end /clone=RPLCO32 /clone_end=3' /gb=AI178267 /ug=Rn.8478 /len=545
AI178267	13448	XM_010735		XP_010735				93n	Homo sapiens membrane protein CH1		EST221933 Rattus norvegicus cDNA, 3' end /clone=RPLCO32 /clone_end=3' /gb=AI178267 /ug=Rn.8478 /len=545
AI178267	13449	XM_010735		XP_010735				93n	Homo sapiens membrane protein CH1		EST221933 Rattus norvegicus cDNA, 3' end /clone=RPLCO32 /clone_end=3' /gb=AI178267 /ug=Rn.8478 /len=545
NM_031643	13450	NP_113831	13451	NM_002755	13452	NP_002746	13453	90	Mitogen activated protein kinase 2	AI178835	rc_AI178835 EST222517 Rattus norvegicus cDNA, 3' end /clone=RSPBQ02 /clone_end=3' /gb=AI178835 /ug=Rn.5850 /len=486
AI179610	13454	1DVEA		NM_002133	13455	1QQ8A		79	Heme oxygenase		EST223333 Rattus norvegicus cDNA, 3' end /clone=RSPCJ56 /clone_end=3' /gb=AI179610 /ug=Rn.3160 /len=604

Table 3.

AI228674	13456	NP_058797	13457	XM_016774	13458	XP_016774	13459	60	Rattus norvegicus Peptidylprolyl isomerase A (cyclophilin A)	NM_017101	rc_AI228674 EST225369 Rattus norvegicus cDNA, 3' end /clone=RBRCX94 /clone_end=3' /gb=AI228674 /ug=Rn.1463 /len=465
AI229031	13460	NP_037050	13461	XM_012898		XP_012898		72	calcium channel alpha 1A	NM_012918	rc_AI229031 EST225726 Rattus norvegicus cDNA, 3' end /clone=RBRDD18 /clone_end=3' /gb=AI229031 /ug=Rn.11281 /len=528
AI229237	13462	AAF80990	13463	NM_000913	13464	NP_000904	13465	77	orphanin FQ receptor gene (OFQR)	AF216218	rc_AI229237 EST225932 Rattus norvegicus cDNA, 3' end /clone=RBRDF79 /clone_end=3' /gb=AI229237 /ug=Rn.9762 /len=513
AI230256	13466	NP_037192	13467	XM_002273		XP_002273		97	Inhibitor of DNA binding 2, dominant negative helix-loop-helix protein	NM_013060	rc_AI230256 EST226951 Rattus norvegicus cDNA, 3' end /clone=REMCU23 /clone_end=3' /gb=AI230256 /ug=Rn.3272 /len=499
AI230256	13468	NP_037192	13469	XM_002273		XP_002273		97	Inhibitor of DNA binding 2, dominant negative helix-loop-helix protein	NM_013060	EST226951 Rattus norvegicus cDNA, 3' end /clone=REMCU23 /clone_end=3' /gb=AI230256 /ug=Rn.3272 /len=499
AI230260	13470	P13862	13471	X16312	13472	P13862	13473	100	Casein kinase II beta subunit		EST226955 Rattus norvegicus cDNA, 3' end /clone=REMCU27 /clone_end=3' /gb=AI230260 /ug=Rn.11095 /len=430
AI230614	13474	Q9QXL7	13475	AF153191	13476	Q9Y5B8	13477	87	ATPase Na+/K+ transporting beta 1 polypeptide		AF036761 Rattus norvegicus stearoyl-CoA desaturase 2 mRNA, partial cds

Table 3.

AI230614	13478	Q9QXL7	13479	AF153191	13480	Q9Y5B8	13481	87	ATPase Na+/K+ transporting beta 1 polypeptide	EST227309 Rattus norvegicus cDNA, 3' end /clone=REMCZ06 /clone_end=3' /gb=AI230614 /ug=Rn.8925 /len=373
AI231500	13482	BAA19517	13483	NM_002767	13484	NP_002758	13485	93	phosphoribosylpyrophosphate synthetase-associated protein	rc_AI231500 EST228188 Rattus norvegicus cDNA, 3' end /clone=REMDK87 /clone_end=3' /gb=AI231500 /ug=Rn.2681 /len=601
AI231519	13486	NP_061996	13487	AJ271734	13488	CAC07404	13489	54	Sialyltransferase 7	rc_AI231519 EST228207 Rattus norvegicus cDNA, 3' end /clone=REMDL26 /clone_end=3' /gb=AI231519 /ug=Rn.6602 /len=482
AI232256	13490	P04166	13491	AB009282	13492	O43169	13493	73	Cytochrome b5, outer mitochondrial membrane isoform	rc_AI232256 EST228944 Rattus norvegicus cDNA, 3' end /clone=RKIBZ24 /clone_end=3' /gb=AI232256 /ug=Rn.10249 /len=566
AI234060	13494	NP_058757	13495	NM_002317	13496	NP_002308	13497	72	Lysyl oxidase	rc_AI234060 EST230748 Rattus norvegicus cDNA, 3' end /clone=RLUCU63 /clone_end=3' /gb=AI234060 /ug=Rn.11372 /len=363
AI235506	13498	NP_114456	13499	NM_006788	13500	NP_006779	13501	71	Ra1A binding protein 1	rc_AI235506 EST232068 Rattus norvegicus cDNA, 3' end /clone=ROVCS71 /clone_end=3' /gb=AI235506 /ug=Rn.7107 /len=640
AI235890	13502	CAA34850	13503			Null		No Human	MHC class I RT1.C/E (transmembrane protein)	rc_AI235890 EST232452 Rattus norvegicus cDNA, 3' end /clone=ROVCY28 /clone_end=3' /gb=AI235890 /ug=Rn.14674 /len=387
AI236721	13504	B49023	13505	AF142498	13506	Q9UN99	13507	93	14-3-3 protein gamma-subtype	EST233283 Rattus norvegicus cDNA, 3' end /clone=ROVDJ72 /clone_end=3' /gb=AI236721 /ug=Rn.2503 /len=345

Table 3.

H31722	13508	Null					EST (not recognized)	rc_H31722 EST106068 Rattus norvegicus cDNA, 3' end /clone=RPCAW93 /clone_end=3' /gb=H31722 /gi=977139 /ug=Rn.14586 /len=341
H33301	13509	Null					EST (not recognized)	rc_H33301 EST109157 Rattus norvegicus cDNA, 3' end /clone=RPNAM37 /clone_end=3' /gb=H33301 /gi=978718 /ug=Rn.14636 /len=383
H33448	13510	Null					EST (not recognized) Homo sapiens hypothetical protein FLJ10385	rc_H33448 EST109458 Rattus norvegicus cDNA, 3' end /clone=RPNAR85 /clone_end=3' /gb=H33448 /gi=978865 /ug=Rn.14640 /len=430
H33486	13511	XP_043207	XM_043207		82n			rc_H33486 EST109536 Rattus norvegicus cDNA, 3' end /clone=RPNAS60 /clone_end=3' /gb=H33486 /gi=978903 /ug=Rn.23316 /len=395
S39221	13512	13513	AAB22435	13514	NP_067544	13515	NMDA receptor	S39221 NMDA receptor {alternatively spliced} [rats, forebrain, mRNA, 1052 nt]
S39221	13516	13517	AAB22435	13518	NP_067544	13519	NMDA receptor	S39221 NMDA receptor {alternatively spliced} [rats, forebrain, mRNA, 1052 nt]
S43408	13520	13521	AAB23030	13522	NP_005579	13523	Endopeptida se-24.18 alpha subunit	S43408 endopeptidase-24.18 alpha subunit [rats, kidney, mRNA, 2928 nt]
S43408	13524	13525	AAB23030	13526	NP_005579	13527	Endopeptida se-24.18 alpha subunit	S43408 endopeptidase-24.18 alpha subunit [rats, kidney, mRNA, 2928 nt]

Table 3.

S46785	13528	P35859	13529	M86826	13530	P35858	13531	77	Rattus norvegicus insulin-like growth factor binding protein complex acid-labile subunit gene, complete cds	S46785 insulin-like growth factor binding protein complex acid-labile subunit [rats, liver, mRNA, 2190 nt]
S54212	13532	AAB25290	13533	NM_001842	13534	NP_001833	13535	85	Ciliary neurotrophic factor receptor alpha component	S54212 ciliary neurotrophic factor receptor alpha component [rats, brain, mRNA, 1332 nt]
S56481	13536	AAB25520	13537	M29932	13538	AAA35550	13539	70	Beta 3-adrenergic receptor {spliced version}	S56481 beta 3-adrenergic receptor {spliced version} [rats, colonic tissue, mRNA, 1968 nt]
S58745	13540	AAB20032	13541	NM_003216	13542	NP_003207	13543	79	Thyrotroph embryonic factor=leucine zipper transcription factor	S58745 thyrotroph embryonic factor=leucine zipper transcription factor [rats, pituitary, mRNA, 817 nt]
NM_022847	13544	NP_074038	13545	NM_000926	13546	NP_000917	13547	95	Progesterone receptor	S64044 progesterone receptor steroid-binding domain [rats, mRNA Partial, 548 nt]
S65091	13548	XM_002992		XP_002992				86	Cyclic AMP phosphoprotein, 19kD	S65091 cyclic AMP-regulated phosphoprotein [rats, mRNA, 1030 nt]
S65091	13549	XM_002992		XP_002992				86	Cyclic AMP phosphoprotein, 19kD	S65091 cyclic AMP-regulated phosphoprotein [rats, mRNA, 1030 nt]
S68736	13550	AAB29713	13551	XM_052590	13552	XP_052590	13553	80	Myosin heavy chain	S68736 myosin heavy chain [rats, CCl4-cirrhotic liver fat-storing cell line, mRNA, 2924 nt]

Table 3.

S68736	13554	AAB29713	13555	XM_052590	13556	XP_052590	13557	80	Myosin heavy chain mRNA	myosin heavy chain [rats, CCl4-cirrhotic liver fat-storing cell line, mRNA, 2924 nt]
S68944	13558	AAC60673	13559	XM_052596		XP_052596		60	Na+/Cl(-)-dependent neurotransmitter transporter	S68944 Na+/Cl(-)-dependent neurotransmitter transporter [rats, brain, mRNA, 3762 nt]
S68944	13560	AAC60673	13561	XM_052596		XP_052596		60	Na+/Cl(-)-dependent neurotransmitter transporter	S68944 Na+/Cl(-)-dependent neurotransmitter transporter [rats, brain, mRNA, 3762 nt]
S69160	13562	AAB29945	13563	NM_003301	13564	NP_003292	13565	87	Thyrotropin-releasing hormone receptor (TRH-R)	S69160 thyrotropin-releasing hormone receptor [rats, pituitary gland, mRNA Partial, 1239 nt]
S69383	13566	AAB30132	13567	NM_001140	13568	NP_001131	13569	70	12-lipoxygenase	S69383 12-lipoxygenase [rats, pineal glands, mRNA, 2216 nt]
S73007	13570	AAB20688	13571	NM_000345	13572	NP_000336	13573	73	synuclein SYN1	S73007 synuclein SYN1 {alternatively spliced} [rats, mRNA, 695 nt]
S75280	13574	AAB33049	13575	XM_038637		XP_038637		92	pre-mtHSP70	S75280 pre-mtHSP70=70 kda heat shock protein precursor [rats, hepatoma cells H4, mRNA Partial, 2090 nt]
S75997	13576	AAB33384	13577	NM_016553	13578	NP_057637	13579	74	Nucleoporin p62 homolog	S75997 nucleoporin p62 homolog {inverted repeats} [rats, Sprague-Dawley, testis, mRNA Partial, 1134 nt]
S76799	13580	NP_036645	13581	XM_006027	13582	XP_006027	13583	93n	BDNF=brain-derived neurotrophic factor {alternatively spliced}	S76799 BDNF=brain-derived neurotrophic factor {alternatively spliced} [rats, brain, mRNA Partial, 421 nt]
S78215	13584	AAB34333	13585	NM_002708	13586	NP_002699	13587	100	Protein phosphatase 1 alpha	protein phosphatase 1 alpha [rats, striatum, mRNA, 1404 nt]

Table 3.

S79676	13588	AAB35431	13589	XM_040782	XP_040782	70	Interleukin 1 beta converting enzyme	S79676 interleukin-1 beta-converting enzyme [rats, mRNA Partial, 458 nt]
S80127	13590	NP_058740	13591	NM_000315	NP_000306	71	Rattus norvegicus Parathyroid hormone (Pth)	S80127 PTH-(1-84)=hypothalamic parathyroid hormone [rats, Sprague-Dawley, mRNA Partial, 671 nt]
S82627	13594	AAC05016	13595		Null		Rattus sp. homeodomain (pem) mRNA, partial cds	S82627 Rattus sp. homeodomain (pem) mRNA, partial cds
S83436	13596	AAB50831	13597	NM_015917	NP_057001	69	rGSTK1-1=glutathione S-transferase subunit 13	EST214426 Rattus norvegicus cDNA, 3' end /clone=RKIBG10 /clone_end=3' /gb=A1105137 /gi=3709294 /ug=Rn.3847 /len=622
U01344	13600	P50297	13601	U80835	g2245376	76	Rattus norvegicus clone A-2 arylamine N-acetyltransferase mRNA, complete cds	U01344 Rattus norvegicus clone A-2 arylamine N-acetyltransferase mRNA, complete cds /cds=(975,1847) /gb=U01344 /gi=786257 /ug=Rn.11112 /len=2533
U03763	13604	AAA82112	13605	NM_000929	NP_000920	68	phospholipase	U03763UTR#1 RRU03763 Rattus rattus phospholipase mRNA, complete cds
U03763	13608	AAA82112	13609	NM_000929	NP_000920	68	phospholipase	U03763UTR#1 RRU03763 Rattus rattus phospholipase mRNA, complete cds
U03763	13612	AAA82112	13613	NM_000929	NP_000920	68	phospholipase	U03763UTR#1 RRU03763 Rattus rattus phospholipase mRNA, complete cds
U05989	13616	AAA16492	13617	U63809	AAC24947	78	Par-4 induced by effectors of apoptosis	U05989 Rattus norvegicus clone par-4 induced by effectors of apoptosis mRNA, complete cds /cds=(66,1064) /gb=U05989 /gi=456281 /ug=Rn.9127 /len=2122

Table 3.

U07971	13620	AAA21250	13621	NM_001482	13622	NP_001473	13623	90	L-arginine:glycine amidinotransferase	U07971 Rattus norvegicus Sprague-Dawley L-arginine-glycine amidinotransferase mRNA, partial cds /cds=(48,1319) /gb=U07971 /gi=475452 /ug=Rn.1500 /len=2260
U08260	13624	I78557	13625	L76224	13626	Q14957	13627	57	Glutamate receptor, ionotropic, N-methyl D-aspartate 2D	U08260 Rattus norvegicus Sprague-Dawley N-methyl-D-aspartate receptor NMDAR2D subunit mRNA, complete cds /cds=(85,4056) /gb=U08260 /gi=475551 /ug=Rn.10063 /len=4957
U09361	13628	AAA56909	13629	XM_005348	13630	XP_005348	13631	56	Rattus norvegicus clone p17.1 tenascin mRNA, partial cds	U09361 RNU09361 Rattus norvegicus clone p17.1 tenascin mRNA, partial cds
U09631	13632	AAB60459	13633	XM_004641		XP_004641		87	VIP2 vasoactive intestinal peptide receptor	U09631 Rattus norvegicus VIP2 vasoactive intestinal peptide receptor mRNA, complete cds /cds=(115,1428) /gb=U09631 /gi=495195 /ug=Rn.10011 /len=3357
U10279	13634	A54892	13635	U62968	13636	AAB53839	13637	82	Sodium-dependent nucleoside transporter (rCNT1) mRNA, complete cds	U10279 Rattus norvegicus Sprague-Dawley sodium-dependent nucleoside transporter (rCNT1) mRNA, complete cds /cds=(156,2102) /gb=U10279 /gi=510272 /ug=Rn.10517 /len=2401
U11071	13638			Null					Polyadenylated-binding protein-related protein mRNA, 3' end	U11071 RNPABPR2 Rattus norvegicus Sprague-Dawley polyadenylate-binding protein-related protein mRNA, 3' end
U15764	13639	AAA89109	13640	M69180	13641	AAA61765	13642	99	nonmuscle myosin heavy chain-A	U15764 RRU15764 Rattus norvegicus nonmuscle myosin heavy chain-A mRNA, partial cds

Table 3.

U16245	13643	AAA66221	13644	NM_001651	13645	NP_001642	13646	77	Aquaporin-5 Rattus norvegicus intestinal DNA replication protein mRNA, partial cds	U16245 Rattus norvegicus aquaporin-5 (AQP5) mRNA, complete cds /cds=(109,906) /gb=U16245 /gi=664759 /ug=Rn.10066 /len=1426
U17565	13647	AAC18424	13648	NM_005915	13649	NP_005906	13650	91		Rat mixed-tissue library Rattus norvegicus cDNA clone rx05005 3', mRNA sequence [Rattus norvegicus] A1639082
U18942	13651	AAA65039	13652	X98559	13653	CAA67169	13654	80	double- stranded RNA-specific adenosine deaminase	U18942 Rattus norvegicus double- stranded RNA-specific adenosine deaminase mRNA, complete cds /cds=(19,3546) /gb=U18942 /gi=755816 /ug=Rn.10056 /len=3608
U19516	13655	Q64350	13656	U23028	13657	Q13144	13658	88	Rattus norvegicus initiation factor eIF- 2Be mRNA, complete cds	U19516 Rattus norvegicus initiation factor eIF-2Be mRNA, complete cds /cds=(34,2184) /gb=U19516 /gi=924598 /ug=Rn.10607 /len=2488
U19516	13659	Q64350	13660	U23028	13661	Q13144	13662	88	Rattus norvegicus initiation factor eIF- 2Be mRNA, complete cds	Rattus norvegicus initiation factor eIF- 2Be mRNA, complete cds /cds=(34,2184) /gb=U19516 /gi=924598 /ug=Rn.10607 /len=2488
U24489	13663	g1336153		M26856	13664	g180964		70	Tenascin X	U24489 Rattus norvegicus tenascin-X mRNA, partial cds /cds=(0,614) /gb=U24489 /gi=841425 /ug=Rn.10225 /len=793
U26397	13665	AAB01069	13666	NM_004027	13667	NP_004018	13668	93	inositol polyphosphat e 4- phosphatase	U26397 Rattus norvegicus inositol polyphosphate 4-phosphatase mRNA, complete cds /cds=(286,3105) /gb=U26397 /gi=944912 /ug=Rn.11215 /len=5582

Table 3.

U27322	13669	AAC52235	13670	NM_000707	13671	NP_000698	13672	75	arginine- vasopressin V1b receptor	U27322 Rattus norvegicus arginine- vasopressin V1b receptor mRNA, complete cds /cds=(541,1806) /gb=U27322 /gi=945040 /ug=Rn.10096 /len=2559
U28927	13673	AAC52867	13674	U27699	13675	AAA87029	13676	79	Na+/Cl- betaine/GAB A transporter	U28927 Rattus norvegicus liver Na+/Cl- betaine/GABA transporter mRNA, complete cds /cds=(304,2190) /gb=U28927 /gi=881597 /ug=Rn.11352 /len=2561
U30381	13677	Q62806	13678	AF039019	13679	Q9UQR1	13680	97	Zinc finger protein 148	U30381 Rattus norvegicus zinc finger binding protein mRNA, complete cds /cds=(387,2771)/gb=U30381 /gi=1373020 /ug=Rn.11383 /len=2772
U30813	13681			Null					Aspartyl- tRNA synthetase (Psi-DRS1) pseudogene	U30813cds RNU30813 Rattus norvegicus aspartyl-tRNA synthetase (Psi-DRS1) pseudogene, complete cds
U32498	13682	AAC52265	13683	NM_021807	13684	NP_068579	13685	94	rsec8	U32498 RNU32498 Rattus norvegicus rsec8 mRNA, partial cds
U33287	13686	P51868	13687	D55655	13688	O14958	13689	87	CALSEQU STRIN, CARDIAC MUSCLE ISOFORM PRECURSOR	U33287 Rattus norvegicus calsequestrin mRNA, complete cds /cds=(133,1374) /gb=U33287 /gi=988306 /ug=Rn.10111 /len=1681
U35244	13690	AAC52985	13691	NM_022916	13692	NP_075067	13693	93	vacuolar protein sorting homolog r- vps33a	U35244 Rat vacuolar protein sorting homolog r-vps33a mRNA, complete cds /cds=(66,1859) /gb=U35244 /gi=1477467 /ug=Rn.1285 /len=3269
U35244	13694	AAC52985	13695	NM_022916	13696	NP_075067	13697	93	vacuolar protein sorting homolog r- vps33a	U35244 Rat vacuolar protein sorting homolog r-vps33a mRNA, complete cds /cds=(66,1859) /gb=U35244 /gi=1477467 /ug=Rn.1285 /len=3269

Table 3.

U35245	13698	AAC52986	13699	AF308803	13700	AAG34680	13701	96	Rat vacuolar protein sorting homolog r-vps33b mRNA	U35245 RNU35245 Rat vacuolar protein sorting homolog r-vps33b mRNA, complete cds
U35245	13702	AAC52986	13703	AF308803	13704	AAG34680	13705	96	Vacuolar protein sorting homolog r-vps33b	rc_A1059963 UI-R-C1-la-d-01-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C1-la-d-01-0-UI /clone_end=3' /gb=A1059963 /ug=Rn.10661 /len=534
U35345	13706	AAA79064	13707	NM_002577	13708	NP_002568	13709	91	serine/threonine kinase	U35345 Rattus norvegicus serine/threonine kinase (gamma-PAK) mRNA, complete cds /cds=(48,1622) /gb=U35345 /gi=1016004 /ug=Rn.10116 /len=1756
U36771	13710	AAB39470	13711	XM_034422	13712	XP_034422	13713	90	sn-glycerol 3-phosphate acyltransferase	U36771 RNU36771 Rattus norvegicus glycerol 3-phosphate acyltransferase mRNA, nuclear gene encoding mitochondrial protein, partial cds
U36773	13714	AAB39470	13715	XM_034422	13716	XP_034422	13717	90	sn-glycerol 3-phosphate acyltransferase	U36773 RNU36773 Rattus norvegicus glycerol-3-phosphate acyltransferase mRNA, nuclear gene encoding mitochondrial protein, partial cds
U36773	13718	AAB39470	13719	XM_034422	13720	XP_034422	13721	90	sn-glycerol 3-phosphate acyltransferase	U36773 RNU36773 Rattus norvegicus glycerol-3-phosphate acyltransferase mRNA, nuclear gene encoding mitochondrial protein, partial cds
U36786	13722	AAA92008	13723	NM_020633	13724	NP_065684	13725	27	Putative pheromone receptor VN7	U36786 Rattus norvegicus putative pheromone receptor VN7 mRNA, complete cds /cds=(29,850) /gb=U36786 /gi=1039471 /ug=Rn.10227 /len=1055

Table 3.

U38253	13726	AAC52788	13727	NM_020365	13728	NP_065098	13729	87	Rattus norvegicus initiation factor eIF-2B gamma subunit (eIF-2B gamma) mRNA, complete cds	Al639441	Rat mixed-tissue library Rattus norvegicus cDNA clone rx05013 3', mRNA sequence [Rattus norvegicus]
U38253	13730	AAC52788	13731	NM_020365	13732	NP_065098	13733	87	Rattus norvegicus initiation factor eIF-2B gamma subunit (eIF-2B gamma) mRNA, complete cds		U38253 Rattus norvegicus initiation factor eIF-2B gamma subunit (eIF-2B gamma) mRNA, complete cds /cds=(88,1446) /gb=U38253 /gi=1537014 /ug=Rn.10577 /len=1470
U38253	13734	AAC52788	13735	NM_020365	13736	NP_065098	13737	87	Rattus norvegicus initiation factor eIF-2B gamma subunit (eIF-2B gamma) mRNA, complete cds	Al639441	Rat mixed-tissue library Rattus norvegicus cDNA clone rx05013 3', mRNA sequence [Rattus norvegicus]
U40628	13738	S70009	13739	AF043244	13740	AAC34993	13741	81	Unknown Glu-Pro dipeptide repeat protein		Rattus norvegicus clone BB.1.4.1 unknown Glu-Pro dipeptide repeat protein mRNA, complete cds /cds=(675,1094) /gb=U40628 /gi=1184695 /ug=Rn.4088 /len=1876
U40819	13742	AAC52355	13743	AF100763	13744	AAD43027	13745	91	Rattus norvegicus 5'-AMP-activated protein kinase alpha-1 catalytic subunit		U40819 RNU40819 Rattus norvegicus 5'-AMP-activated protein kinase alpha-1 catalytic subunit mRNA, complete cds

Table 3.

U47110	13746	AAB19127	13747	AF035582	13748	AAB88198	13749	94	peripheral plasma membrane protein CASK	U47110 Rattus norvegicus peripheral plasma membrane protein CASK mRNA, complete cds /cds=(357,3086) /gb=U47110 /gi=1199623 /ug=Rn.10616 /len=3819
U48247	13750	AAC72251	13751	NM_005953	13752	NM_005953		85	protein kinase C-binding protein Enigma	U48247 RNU48247 Rattus norvegicus protein kinase C-binding protein Enigma mRNA, complete cds
U48247	13753	AAC72251	13754	NM_005953	13755	NM_005953		85	protein kinase C-binding protein Enigma	U48247 RNU48247 Rattus norvegicus protein kinase C-binding protein Enigma mRNA, complete cds
U48592	13756	AAB03502	13757	NM_002182	13758	NP_002173	13759	86	Interleukin-1 receptor accessory protein	U48592 Rattus norvegicus interleukin-1 receptor accessory protein (IL-1) mRNA, complete cds /cds=(102,1814) /gb=U48592 /gi=1403699 /ug=Rn.10511 /len=1862
U49935	13760	AAB40713	13761	M50814	13762	AAA51927	13763	96	cyclin D3.	U49935mRNA RNU49935 Rattus norvegicus cyclin D3 gene, partial cds
U49935	13764	AAB40713	13765	M50814	13766	AAA51927	13767	96	cyclin D3.	U49935mRNA RNU49935 Rattus norvegicus cyclin D3 gene, partial cds
U50717	13768	AAC52643	13769	XM_012060		XP_012060		88	Synaptic density protein PSD-93 mRNA, partial cds	U50717 RNU50717 Rattus norvegicus synaptic density protein PSD-93 mRNA, partial cds
U55938	13770	AAB50061	13771	XM_008782	13772	XP_008782	13773	91	GD3 alpha 2,8-sialyltransferase mRNA	U55938 Rattus norvegicus GD3 alpha 2,8-sialyltransferase mRNA complete cds /cds=(52,1194) /gb=U55938 /gi=1903380 /ug=Rn.10969 /len=1426
U57049	13774	AAB01988	13775			Null			Methylenetetrahydrofolate reductase mRNA, partial cds	U57049 Rattus norvegicus methylenetetrahydrofolate reductase mRNA, partial cds /cds=(0,485) /gb=U57049 /gi=1354771 /ug=Rn.10494 /len=1250

Table 3.

U62667	13776	P97574	13777	U25997	13778	P52823	13779	95	Stanniocalcin 1	U62667 Rattus norvegicus stanniocalcin (rSTC) mRNA, complete cds /cds=(109,852) /gb=U62667 /gi=1762530 /ug=Rn.10647 /len=1004
U65007	13780	PC4221	13781	M15326	13782	TVHUME	13783	88	Met proto-oncogene	U65007 Rattus norvegicus hepatocyte growth factor receptor mRNA, complete cds /cds=(0,4148) /gb=U65007 /gi=1679659 /ug=Rn.10617 /len=4189
U67140	13784	AAB48590	13785	XM_028634		XP_028634		73	PSD-95/SAP90-associated protein-4	U67140 Rattus norvegicus PSD-95/SAP90-associated protein-4 mRNA, complete cds /cds=(204,3182) /gb=U67140 /gi=1864092 /ug=Rn.11279 /len=3348
U68172	13786	AAB08481	13787	NM_002457	13788	NP_002448	13789	79	mucin (MUC2)	U68172mRNA RNU68172 Rattus norvegicus mucin (MUC2) gene, partial cds
U70372	13790	AAC53031	13791			Null		No Human	PAM COOH-terminal interactor protein 2	U70372 Rattus norvegicus PAM COOH-terminal interactor protein 2 mRNA, complete cds /cds=(0,1180) /gb=U70372 /gi=1698778 /ug=Rn.10509 /len=1345
U70988	13792	AAC52961	13793	NM_001557	13794	NP_001548	13795	70	Chemokine (C-X-C) receptor 2	U70988cds RNU70988 Rattus norvegicus CXCR2 gene, complete cds
U72741	13796	P97840	13797	AB006782	13798	O00182	13799	73	Lectin, galactose binding, soluble 9 (Galectin-9)	U72741 Rattus norvegicus 36 Kd beta-galactoside binding lectin mRNA, complete cds /cds=(5,1069) /gb=U72741 /gi=2351552 /ug=Rn.10706 /len=1070
U73174	13800	AAB18132	13801	XM_005119		1GRT	13802	84	Rattus norvegicus glutathione reductase mRNA, complete cds	U73174 RNU73174 Rattus norvegicus glutathione reductase mRNA, complete cds

Table 3.

U73174	13803	AAB18132	13804	XM_005119	13805	1GRT	Rattus norvegicus glutathione reductase mRNA, complete cds	84	Rattus norvegicus glutathione reductase mRNA, complete cds	U73174 RNU73174 Rattus norvegicus glutathione reductase mRNA, complete cds
U73174	13806	AAB18132	13807	XM_005119	13808	1GRT	Rattus norvegicus glutathione reductase mRNA, complete cds	84	Rattus norvegicus glutathione reductase mRNA, complete cds	RNU73174 Rattus norvegicus glutathione reductase mRNA, complete cds
U75398	13809	AAB38708	13810	NM_001964	13812	NP_001955	Krox-24 mRNA, partial cds	66	Krox-24 mRNA, partial cds	U75398 RNKROX1 Rattus norvegicus Krox-24 mRNA, partial cds
U75400	13813	AAB38315	13814	NM_004766	13816	NP_004757	Coatmer beta subunit mRNA	50	Coatmer beta subunit mRNA	RNCOABS2 Rattus norvegicus coatmer beta subunit mRNA, partial cds and 3' untranslated sequence
U75923	13817	AAB81886	13818			Null	Isoleucyl tRNA synthetase mRNA, partial cds and 3' untranslated sequence	No Human	Isoleucyl tRNA synthetase mRNA, partial cds and 3' untranslated sequence	U75923UTR#1 SEG_RNTRNAIS3 Rattus norvegicus isoleucyl tRNA synthetase mRNA, partial cds and 3' untranslated sequence
U75928	13819	NP_036788	13820	NM_003118	13822	NP_003109	Secreted acidic cysteine rich glycoprotein (osteonection)	83	Secreted acidic cysteine rich glycoprotein (osteonection)	U75928UTR#1 RNU75928 Rattus norvegicus SPARC mRNA, 3' untranslated region, partial sequence
U76635	13823	AAB71495	13824	NM_005223	13826	NP_005214	Deoxyribonuclease I (DNaseI) ??	71	Deoxyribonuclease I (DNaseI) ??	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00682 3', mRNA sequence [Rattus norvegicus]
U76635	13827	AAB71495	13828	NM_005223	13830	NP_005214	Deoxyribonuclease I (DNaseI) ??	71	Deoxyribonuclease I (DNaseI) ??	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00682 3', mRNA sequence [Rattus norvegicus]

Table 3.

U76997	13831	AAB19066	13832	NM_005575	13833	NP_005566	13834	83	Insulin-regulated membrane aminopeptidase IRAP	U76997 Rattus norvegicus insulin-regulated membrane aminopeptidase IRAP mRNA, complete cds /cds=(71,3148) /gb=U76997 /gi=1674502 /ug=Rn.10614 /len=3197
U81492	13835	AAC17704	13836	NM_000588	13837	NP_000579	13838	29	Interleukin-3 beta	U81492 Rattus norvegicus interleukin-3 beta mRNA, complete cds /cds=(23,532) /gb=U81492 /gi=1763670 /ug=Rn.10652 /len=562
U82623	13839	AAB91537	13840	NM_006788	13841	NP_006779	13842	71	cytocentrin	U82623 Rattus norvegicus cytocentrin mRNA, complete cds /cds=(119,2200) /gb=U82623 /gi=2697021 /ug=Rn.7107 /len=3602
AF375463	13843	AAK56958	13844	NM_032298	13845	NP_115674	13846	49	Synaptotagmin in 10 mRNA	U85513 RNU85513 Rattus norvegicus synaptotagmin X mRNA, partial cds
U86635	13847	A29036	13848	J05459	13849	3GTUD	13850	87	Glutathione S-transferase, mu 5	U86635 RNU86635 Rattus norvegicus glutathione s-transferase M5 mRNA, complete cds
U86635	13851	A29036	13852	J05459	13853	3GTUD	13854	87	Glutathione S-transferase, mu 5	U86635 RNU86635 Rattus norvegicus glutathione s-transferase M5 mRNA, complete cds
U86635	13855	A29036	13856	J05459	13857	3GTUD	13858	87	Glutathione S-transferase, mu 5	RNU86635 Rattus norvegicus glutathione s-transferase M5 mRNA, complete cds
U87627	13859	Q63344	13860	U81800	13861	O15427	13862	88	Monocarboxylate transporter	U87627 Rattus norvegicus putative monocarboxylate transporter (MCT3) mRNA, complete cds /cds=(89,1504) /gb=U87627 /gi=2463650 /ug=Rn.10826 /len=2118
U90121	13863	AAB49723	13864	NM_000361	13865	NP_000352	13866	59	thrombomodulin	U90121 Rattus norvegicus thrombomodulin mRNA, partial cds /cds=(0,1385) /gb=U90121 /gi=1890291 /ug=Rn.10716 /len=1665
U90215	13867	AAB49989	13868	NM_005668	13869	NP_005659	13870	97	polysialyltransferase	U90215 RNU90215 Rattus norvegicus polysialyltransferase mRNA, partial cds

Table 3.

U91679	13871	AAC12859	13872	NM_017521	13873	NP_059991	13874	70	ETS domain transcription factor Pet-1 mRNA	U91679 Rattus norvegicus ETS domain transcription factor Pet-1 mRNA, complete cds /cds=(111,1133) /gb=U91679 /gi=3033418 /ug=Rn.9775 /len=1722
U91847	13875	AAB51285	13876	XM_043351		XP_043351		94	p38 mitogen activated protein kinase	rc_AA924542 UI-R-A1-dz-e-12-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A1-dz-e-12-O-UI /clone_end=3' /gb=AA924542 /gi=3071678 /ug=Rn.3293 /len=487 AA924542
U92289	13877	AAB71762	13878	U31099	13879	Q13258	13880	65	Prostaglandin D2 receptor	U92289 Rattus norvegicus prostaglandin D2 receptor mRNA, complete cds /cds=(60,1133) /gb=U92289 /gi=2459674 /ug=Rn.11409 /len=1315
U92803	13881	AAB61572	13882	NM_001296	13883	NP_001287	13884	58	CC-chemokine-binding receptor JAB61	U92803 Rattus norvegicus CCR10-related receptor (CCR10rR) mRNA, complete cds /cds=(134,1282) /gb=U92803 /gi=2213806 /ug=Rn.10771 /len=1348
U92897	13885	AAB53321	13886	XM_052131		XP_052131		86	Kv4.3 (potassium voltage-gated channel)	U92897 RNU92897 Rattus norvegicus Kv4.3 mRNA, partial cds
U95052	13887	AAC53095	13888	U76111	13889	AAC51166	13890	98n	Mus musculus translation repressor NAT1 mRNA, complete cds	U95052UTR#1 RNU95052 Rattus norvegicus translation repressor NAT1 mRNA, partial 3'UTR U76112
U95052	13891	AAC53095	13892	U76111	13893	AAC51166	13894	98n	Mus musculus translation repressor NAT1 mRNA, complete cds	U95052UTR#1 RNU95052 Rattus norvegicus translation repressor NAT1 mRNA, partial 3'UTR U76112

Table 3.

U95920	13895	AAB54066	13896	L27841	13897	A54103	13898	83	Pericentriolar material 1	Rattus norvegicus pericentriolar material PCM-1 (PCM-1) mRNA, partial cds /cds=(0,1079) /gb=U95920 /gi=2078540 /ug=Rn.11026 /len=1135
X00975	13899	P04466	13900	M21812	13901	AAA91848	13902	99	Myosin, light polypeptide 2, alkali; ventricular, skeletal, slow	X00975 Rat MLC2 gene for muscle myosin light chain 2 /cds=(56,565) /gb=X00975 /gi=56726 /ug=Rn.6534 /len=648
X00975	13903	P04466	13904	M21812	13905	AAA91848	13906	99	Myosin, light polypeptide 2, alkali; ventricular, skeletal, slow	X00975 Rat MLC2 gene for muscle myosin light chain 2 /cds=(56,565) /gb=X00975 /gi=56726 /ug=Rn.6534 /len=648
X00975	13907	P04466	13908	M21812	13909	AAA91848	13910	99	Myosin, light polypeptide 2, alkali; ventricular, skeletal, slow	X00975 Rat MLC2 gene for muscle myosin light chain 2 /cds=(56,565) /gb=X00975 /gi=56726 /ug=Rn.6534 /len=648
X00975	13911	P04466	13912	M21812	13913	AAA91848	13914	99	Myosin, light polypeptide 2, alkali; ventricular, skeletal, slow	X00975 Rat MLC2 gene for muscle myosin light chain 2 /cds=(56,565) /gb=X00975 /gi=56726 /ug=Rn.6534 /len=648
X00975	13915	P04466	13916	M21812	13917	AAA91848	13918	99	Myosin, light polypeptide 2, alkali; ventricular, skeletal, slow	Rat MLC2 gene for muscle myosin light chain 2 /cds=(56,565) /gb=X00975 /gi=56726 /ug=Rn.6534 /len=648

Table 3.

X00975	13919	P04466	13920	M21812	13921	AAA91848	13922	99	Myosin, light polypeptide 2, alkali; ventricular, skeletal, slow	Rat MLC2 gene for muscle myosin light chain 2 /cds=(56,565) /gb=X00975 /gi=56726 /ug=Rn.6534 /len=648
X03369	13923	CAA27067	13924	XM_004389		XP_004389		90	beta-tubulin T beta15	X03369 Rat mRNA for beta-tubulin T beta15 /cds=(8,1345) /gb=X03369 /gi=57428 /ug=Rn.11235 /len=1592
X04310	13925	CAA27850	13926	NM_004931	13927	NP_004922	13928	40	37K chain of CD8 antigen	X04310 Rat thymocyte mRNA for 37K chain of CD8 antigen /cds=(39,665) /gb=X04310 /gi=55917 /ug=Rn.10330 /len=1261
X15734	13929	P13444	13930	D49357	13931	Q00266	13932	95	S-ADENOSYL METHIONIN E SYNTHETA SE ALPHA AND BETA FORMS	X15734 Rat mRNA for s-adenosylmethionine synthetase /cds=(72,1265) /gb=X15734 /gi=57183 /ug=Rn.10418 /len=1840
X16554	13933	KIRTR1	13934	Y00971	13935	KIHUR1	13936	100	Phosphoribosyl pyrophosphate synthetase 1	Rat PRPS1 mRNA for phosphoribosylpyrophosphate synthetase subunit I (EC 2.7.6.1) /cds=(111,1067) /gb=X16554 /gi=56976 /ug=Rn.9761 /len=1981
X53588	13937	CAA37657	13938	M69051	13939	Q05810	13940	93	Rat mRNA for glucokinase, alternatively spliced GK2	X53588 Rat mRNA for glucokinase, alternatively spliced GK2 (EC 2.7.1.1) /cds=(91,1488) /gb=X53588 /gi=56239 /ug=Rn.10447 /len=2326
X54400	13941	CAA38266	13942	XM_052255		XP_052255		87	Hepatocyte growth factor (scatter factor)	Rat mRNA for hepatocyte growth factor /cds=(41,2227) /gb=X54400 /gi=56353 /ug=Rn.10468 /len=2431

Table 3.

X55660	13943	CAA39193	13944	NM_002569	13945	NP_002560	13946	85	pcRF104 mRNA for furin /cds=(443,2824) /gb=X55660 /gi=56171 /ug=Rn.3220 /len=4259
X55660	13947	CAA39193	13948	NM_002569	13949	NP_002560	13950	85	X55660 Rat pcRF104 mRNA for furin /cds=(443,2824) /gb=X55660 /gi=56171 /ug=Rn.3220 /len=4259
X56747	13951	CAA40069	13952	NM_002299	13953	NP_002290	13954	76	X56747cds RRFILPHR Rat mRNA for fetal intestinal lactase-phlorizin hydrolase precursor, partial
X57523	13955	CAA40742	13956	L21205	13957	AAC12903	13958	65	X57523 R.norvegicus mtp1 mRNA /cds=(0,2224) /gb=X57523 /gi=56716 /ug=Rn.10763 /len=2664
X57523	13959	CAA40742	13960	NM_000593	13961	NP_000584	13962	65	X57523 R.norvegicus mtp1 mRNA /cds=(0,2224) /gb=X57523 /gi=56716 /ug=Rn.10763 /len=2664
X59249	13963	CAA41937	13964	L20463	13965	AAA16365	13966	70	X59249 Rat mRNA for putative G-protein coupled receptor /cds=(128,1090) /gb=X59249 /gi=56307 /ug=Rn.22612 /len=1594
X61296	13967			Null				80	X61296cds#2 RNL1RTO2C R.norvegicus L1 retroposon, ORF2 mRNA (partial)
X63995	13968	S30604	13969	L05568	13970	A47398	13971	90	X63995 R.norvegicus NTT mRNA /cds=(160,2052) /gb=X63995 /gi=56779 /ug=Rn.1663 /len=3180

Table 3.

X66842	13972	P30994	13973	X77307	13974	P41595	13975	81	5-hydroxytryptamine (serotonin) receptor 2B	X66842 R.norvegicus SRL mRNA for stomach fundus serotonin receptor /cds=(226,1665) /gb=X66842 /gi=57304 /ug=Rn.10425 /len=2003
X72914	13976	CAA51419	13977	XM_009336	13978	XP_009336	13979	79	cartilage oligomeric matrix protein	X72914 R.norvegicus mRNA for cartilage oligomeric matrix protein /cds=(6,2273) /gb=X72914 /gi=297438 /ug=Rn.10343 /len=2410
X76453	13980	S42794	13981	X92814	13982	P53816	13983	82	Hras-revertant gene 107	Rattus norvegicus (Sprague Dawley) H-rev107 mRNA /cds=(97,579) /gb=X76453 /gi=433962 /ug=Rn.11377 /len=966
X77209	13984	P55063	13985	AF134726	13986	g4529894		94	Hsp70-3 gene	X77209 R.norvegicus Hsp70-3 gene /cds=(13,1938) /gb=X77209 /gi=1814002 /ug=Rn.22532 /len=2546
X77209	13987	CAA54424	13988	XM_004187		XP_004187		88	heat shock protein 70	rc_AA875620 UI-R-E0-cv-d-12-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cv-d-12-0-UI /clone_end=3' /gb=AA875620 /gi=2980568 /ug=Rn.2978 /len=387
X82152	13989	CAA57648	13990	XM_001782	13991	XP_001782	13992	81	fibromodulin	X82152 R.norvegicus mRNA for fibromodulin /cds=(53,1183) /gb=X82152 /gi=602883 /ug=Rn.8778 /len=2943
X83399	13993	CAA58316	13994	NM_001968	13995	NP_001959	13996	99	eIF-4E	X83399 R.norvegicus mRNA eIF-4E /cds=(48,701) /gb=X83399 /gi=1240052 /ug=Rn.11275 /len=1647
X94185	13997	CAA63895	13998	XM_017018		XP_017018		83	dual specificity phosphatase, MKP-3	X94185cds RNMKP3 R.norvegicus mRNA for dual specificity phosphatase, MKP-3
X95850	13999			Null				No Human	R.norvegicus mRNA for novel gene expressed in circadian manner, clone SCN8	X95850mRNA RN SCN8 R.norvegicus mRNA for novel gene expressed in circadian manner, clone SCN8

Table 3.

X97374	14000	CAA66043	14001	NM_006228	14002	NP_006219	14003	66	Prepronociceptin	X97375	X97374exon RNPPNEX2 R.norvegicus gene encoding prepronociceptin, exon 2
X97443	14004	CAA06212	14005	X97442	14006	P49755	14007	96	Integral membrane protein Tmp21-I (p23)		X97443 R.norvegicus mRNA for transmembrane protein Tmp21-I /cds=(0,611) /gb=X97443 /gi=1360135 /ug=Rn.22674 /len=706
X97443	14008	CAA06212	14009	X97442	14010	P49755	14011	96	Integral membrane protein Tmp21-I (p23)		Rattus norvegicus mRNA for transmembrane protein Tmp21-I /cds=(0,611) /gb=X97443 /gi=1360135 /ug=Rn.22674 /len=706
Y00404	14012	CAA68465	14013	NM_000454	14014	NP_000445	14015	83	Copper-zinc-containing superoxide dismutase		Y00404 Rat mRNA for copper-zinc-containing superoxide dismutase /cds=(93,557) /gb=Y00404 /gi=57274 /ug=Rn.6059 /len=650
Z15123	14016	AAA42105	14017	BC000171	14018	AAH00171	14019	93	S-adenosylmethionine decarboxylase 1	M64274	Z15123exon#5 RNAMDX48 R.norvegicus S-adenosylmethionine decarboxylase gene, exons 4-8
Z15123	14020	AAA42105	14021	BC000171	14022	AAH00171	14023	93	S-adenosylmethionine decarboxylase 1	M64274	Z15123exon#5 RNAMDX48 Rattus norvegicus S-adenosylmethionine decarboxylase gene, exons 4-8
Z17319	14024	CAA78967	14025	J05073	14026	P15259	14027	76	Phosphoglyceromutase		Z17319 R.norvegicus gene for phosphoglyceromutase /cds=(1181,1942) /gb=Z17319 /gi=297110 /ug=Rn.9738 /len=2126
Z22812	14028	CAA80465	14029	NM_004633	14030	NP_004624	14031	58	Interleukin-1 receptor type 2		Z22812 R.norvegicus interleukin-1 receptor type 2 /cds=(123,1373) /gb=Z22812 /gi=311407 /ug=Rn.10758 /len=1380
Z50144	14032	NP_058889	14033	NM_016228	14034	NP_057312	14035	69	Kynurenine aminotransferase II	NM_017193	Z50144 R.norvegicus mRNA for kynurenine/alpha-aminoadipate aminotransferase /cds=(112,1389) /gb=Z50144 /gi=1050751 /ug=Rn.11133 /len=1807

Table 3.

Z78279	14036	CAB01633	14037	S64596	14038	AAB27856	14039	84	Collagen alpha1 type I	U75405	U75405UTR#1 RNU75405 Rattus norvegicus alpha 1 type I collagen mRNA, 3' untranslated region, partial sequence
Z78279	14040	CAB01633	14041	S64596	14042	AAB27856	14043	84	Collagen alpha1	M27207	M27207mRNA RATCOL1A1 Rattus norvegicus (clone pL6-3-1) alpha-1 type I collagen mRNA, 3' UTR
Z78279	14044	CAB01633	14045	S64596	14046	AAB27856	14047	84	Collagen alpha1 type I		Z78279 R.norvegicus mRNA for collagen alpha1 type I /cds=(0.4361) /gb=Z78279 /gi=2894105 /ug=Rn.2953 /len=5721
AJ001529	14048	T34021	14049	U26424	14050	2204254A	14051	96	Serine/threonine kinase 3 (Ste20, yeast homolog)		AJ001529cds RNMST2KIN Rattus norvegicus mRNA for MST2 kinase
AJ002556	14052	CAA05555	14053	AB058781	14054	BAB47507	14055	63	E-STOP protein		AJ002556 RNAJ2556 Rattus norvegicus mRNA for STOP protein
AJ132230	14056	CAA10610	14057	XM_007275	14058	XP_007275	14059	67	B1 bradykinin receptor		AJ132230 RNO132230 Rattus norvegicus mRNA for B1 bradykinin receptor
AJ132230	14060	CAA10610	14061	XM_007275	14062	XP_007275	14063	69	B1 bradykinin receptor		RNO132230 Rattus norvegicus mRNA for B1 bradykinin receptor
D10106	14064	P28576	14065	NM_002607	14066	NP_002598	14067	92	R.norvegicus mRNA for platelet-derived growth factor A chain (partial)	Z14120	Z14120cds RNPDGFACP R.norvegicus mRNA for platelet-derived growth factor A chain (partial)
D12524	14068	BAA02094	14069	NM_000222	14070	NP_000213	14071	79	c-kit receptor tyrosine kinase.		D12524 RATCKITPO Rat mRNA for c-kit receptor tyrosine kinase
D13213	14072	BAA02500	14073	NM_000836	14074	NP_000827	14075	77	N-methyl-D-aspartate receptor subunit		D13213 RATNMDARD1 Rat mRNA for N-methyl-D-aspartate receptor subunit (NMDAR2D-1)

Table 3.

D13912	14076	AAB59730	14077	M14096	14078	A29815	14079	77	Cytochrome P450, subfamily IIIA, polypeptide 3	RATP450 Rat mRNA for cytochrome P-450
D13962	14080	2107313A	14081	M20681	14082	P11169	14083	83	Solute carrier family 2 A3 (neuron glucose transporter)	D13962 RATGLUT3 Rat mRNA for neuron glucose transporter
D16817	14084	BAA04092	14085	NM_000843	14086	NP_000834	14087	66	Metabotropic glutamate receptor mGluR7	D16817 RATMGRM Rat mRNA for metabotropic glutamate receptor mGluR7
D90401	14088	BAA14397	14089	XM_012353		XP_012353		75	Dihydrolipoamide succinyltransferase	D90401 RATAKGE2 Rat mRNA for dihydrolipoamide succinyltransferase
D90401	14090	BAA14397	14091	XM_012353		XP_012353		75	Dihydrolipoamide succinyltransferase	RATAKGE2 Rat mRNA for dihydrolipoamide succinyltransferase
E01050	14092	NP_085914	14093	NM_000030	14094	NP_000021	14095	76	Rattus norvegicus Alanine-glyoxylate aminotransferase (Serine-pyruvate aminotransferase) (Agxt), mRNA	E01050cds cDNA encoding rat serine pyruvate aminotransferase

Table 3.

E01050	14096	NP_085914	14097	NM_000030	14098	NP_000021	14099	76	Rattus norvegicus Alanine-glyoxylate aminotransferase (Serine-pyruvate aminotransferase) (Agxt), mRNA	NM_030656	E01050cds cDNA encoding rat serine pyruvate aminotransferase
E13557	14100	NP_068518	14101	XM_029712		XP_029712		86	Cysteine-sulfinate decarboxylase (Csad)	NM_021750	E13557cds Rat mRNA for GADII
E13557	14102	NP_068518	14103	XM_029712		XP_029712		86	Cysteine-sulfinate decarboxylase (Csad)	NM_021750	E13557cds Rat mRNA for GADII
L07380	14104	NP_036982	14105	XM_030066		XP_030066		79	growth hormone-releasing factor receptor	L07380 RATGHRFRG Rattus rattus (clone pGR2) growth hormone-releasing factor receptor mRNA sequence	
L07380	14106	NP_036982	14107	XM_030066		XP_030066		79	growth hormone-releasing factor receptor	L07380 RATGHRFRG Rattus rattus (clone pGR2) growth hormone-releasing factor receptor mRNA sequence	
L11035	14108	AF327018	14109	AAK27360				81n	Rat T-cell receptor alpha chain mRNA for RT1L haplotype	L11035 RATTCAXAS Rat T-cell receptor alpha chain mRNA for RT1L haplotype	

Table 3.

L14002	14110					Null				Polymeric immunoglobulin receptor AATTAA-containing 3'UTR mRNA sequence	L14002UTR#1 RATPIGRB Rattus norvegicus polymeric immunoglobulin receptor AATTAA-containing 3'UTR mRNA sequence
L15556	14111	Q9QW07	14112	141349	14113	Q15147	14114	97		Phospholipase C, beta4	Rattus norvegicus phospholipase C (BETA4) mRNA /cds=UNKNOWN /gb=L15556 /gi=404071 /ug=Rn.6155 /len=5278
L16995	14115	XM_008168		XP_008168				82n		Add1	L16995 RATADD1A Rat add1 mRNA sequence
L26293	14116								No Human	FSH-regulated protein mRNA	L26293 Rattus norvegicus (clone 180) FSH-regulated protein mRNA /cds=UNKNOWN /gb=L26293 /gi=425470 /ug=Rn.10415 /len=3678
M13100	14117					Null				Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#2 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	14118					Null				Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#3 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	14119					Null				Long interspersed repetitive DNA sequence LINE3	M13100cds#6 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)

Table 3.

M61725	14120	B40439	14121	X56687	14122	S18193	14123	98	Rat transcription factor UBF1 mRNA	M61725 RATUBF2 Rat transcription factor UBF2 mRNA
M61725	14124	B40439	14125	X56687	14126	S18193	14127	98	Rat transcription factor UBF1 mRNA	RATUBF2 Rat transcription factor UBF2 mRNA
M92430	14128	AAA19949	14129	NM_013964	14130	NP_039258	14131	88n	Rat neu differentiation factor mRNA	M92430 Rat neu differentiation factor mRNA /cds=UNKNOWN /gb=M92430 /gi=205665 /ug=Rn.10311 /len=1867
M99567	14132	A45493	U26425	U26425	14133	I38994	14134	92	Rattus norvegicus phospholipase C beta-3 mRNA, partial cds	M99567 RATPHOCBE Rat phospholipase C beta-3 mRNA
M99567	14134	A45493	U26425	U26425	14135	I38994	14136	92	Rattus norvegicus phospholipase C beta-3 mRNA, partial cds	M99567 RATPHOCBE Rat phospholipase C beta-3 mRNA
M99567	14136	A45493	U26425	U26425	14137	I38994	14138	92	Rattus norvegicus phospholipase C beta-3 mRNA, partial cds	RATPHOCBE Rat phospholipase C beta-3 mRNA
U30788	14138		Null						Rattus norvegicus Tclone4 mRNA	U30788 Rattus norvegicus Tclone4 mRNA /cds=UNKNOWN /gb=U30788 /gi=1216374 /ug=Rn.6477 /len=2026
X00923	14139	CAA25439	L00021	L00021	14140	AAB59424	14141	45	Immunoglobulin epsilon heavy chain	X00923cds RNIGE01 Rat gene for immunoglobulin epsilon heavy chain

Table 3.

X06150	14142	P13255	14143	X62250	14144	S42627	14145	92	Glycine methyltransferase	X06150cds RINGMTR Rat mRNA for glycine methyltransferase (EC 2.1.1.20)
X06801	14146	CAA29957	14147	NM_001613	14148	NP_001604	14149	100	Rat mRNA for vascular alpha-actin	X06801cds RNACTAV Rat mRNA for vascular alpha-actin
X06801	14150	CAA29957	14151	NM_001613	14152	NP_001604	14153	100	Rat mRNA for vascular alpha-actin	X06801cds RNACTAV Rat mRNA for vascular alpha-actin
X06801	14154	CAA29957	14155	NM_001613	14156	NP_001604	14157	100	vaskular alpha-actin	X06801cds RNACTAV Rat mRNA for vaskular alpha-actin
X06801	14158	CAA29957	14159	NM_001613	14160	NP_001604	14161	100	vaskular alpha-actin	X06801cds RNACTAV Rat mRNA for vaskular alpha-actin
X16623	14162	CAA34620	14163	XM_003704		XP_003704		80	Neuraxin	X16623cds RSNEU Rat mRNA for neuraxin
X17607	14164	CAA35609	14165	XM_004030	14166	XP_004030	14167	87	Rat beta-2 adrenergic receptor	X17607cds RSB2AR Rat beta-2 adrenergic receptor gene
X51615	14168	AAD50911	14169	XM_007169		XP_007169		86n	connexin protein Cx26	X51615 RRCX26 R.rattus RNA for connexin protein Cx26
X53052	14170	CAA37219	14171	NM_012064	14172	NP_036196	14173	85	Rat mRNA for main intrinsic protein	X53052cds RRMIP Rat mRNA for main intrinsic protein
X53455	14174	CAA37535	14175	XM_030840	14176	XP_030840	14177	69	microtubule-associated protein 2	X53455cds RRMIP2 Rat mRNA for microtubule-associated protein 2
X56327	14178	CAA39766	14179	V00508	14180	P02100	14181	75	Epsilon 2 globin	X56327cds RNEP2GL Rattus norvegicus epsilon 2 globin gene
X56327	14182	CAA39766	14183	V00508	14184	P02100	14185	75	Epsilon 2 globin	X56327cds RNEP2GL Rattus norvegicus epsilon 2 globin gene
X57988	14186	CAA41054	14187	NM_000318	14188	NP_000309	14189	88	Peroxisome assembly factor-1	E03344cds cDNA sequence of peroxisome forming factor

Table 3.

X62325	14190	Null								TcRValphaT48a2 mRNA for T cell receptor V-alpha J-alpha	No Human							X62325cds RRTRT48A2 R.rattus TcRValphaT48a2 mRNA for T cell receptor V-alpha J-alpha
X62325	14191	Null								TcRValphaT48a2 mRNA for T cell receptor V-alpha J-alpha	No Human							X62325cds RRTRT48A2 R.rattus TcRValphaT48a2 mRNA for T cell receptor V-alpha J-alpha
X62325	14192	Null								R.rattus TcRValphaT48a2 mRNA for T cell receptor V-alpha J-alpha	No Human							X62325cds RRTRT48A2 R.rattus TcRValphaT48a2 mRNA for T cell receptor V-alpha J-alpha
X62325	14193	Null								R.rattus TcRValphaT48a2 mRNA for T cell receptor V-alpha J-alpha	No Human							X62325cds RRTRT48A2 R.rattus TcRValphaT48a2 mRNA for T cell receptor V-alpha J-alpha
X62660	14194	14195	NM_000847	14196	NP_000838	14197				Glutathione transferase subunit 8	56							X62660mRNA RRGTS8 R.rattus mRNA for glutathione transferase subunit 8
X62950	14198	14199	XM_003009		XP_003009					carboxypeptidase B.	76							X62950mRNA RNPBUS30 R.norvegicus mRNA (pBUS30) with repetitive elements
X63410	14200	14201	S43859	14202	AAB23169	14203				Hydroxysteroid sulfotransferase	59							X63410cds RRYHDSUL R.rattus mRNA for hydroxysteroid sulfotransferase

Table 3.

X63722	14204	JS0675	14205	X53051	14206	P19320	14207	76	Vascular cell adhesion molecule 1	X63722cds RNVCAM1R R.norvegicus mRNA for vascular cell adhesion molecule-1
X65083	14208	P80299	14209	L05779	14210	P34913	14211	78	Cytosolic epoxide hydrolase	X65083cds RNCEHR R.norvegicus mRNA for cytosolic epoxide hydrolase
X65083	14212	P80299	14213	L05779	14214	P34913	14215	78	Cytosolic epoxide hydrolase	X65083cds RNCEHR Rattus norvegicus mRNA for cytosolic epoxide hydrolase
X66022	14216	S26731		U43843	14217	Q92782	14218	87	Neuro-d4 microtubule associated protein 1A	X66022mRNA#1 RNND4P R.norvegicus mRNA for neuro-D4 protein
X66840	14219	CAA47316	14220	XM_032360		XP_032360		71		X66840cds RNMAP1AP R.norvegicus mRNA for microtubule associated protein 1A (partial)
X68041	14221	CAA48177	14222	NM_003102	14223	NP_003093	14224	64	superoxide dismutase	X68041cds RNSODIS R.norvegicus mRNA for epididymal secretory superoxide dismutase
X83094	14225	CAA58149	14226	NM_005526	14227	NP_005517	14228	83	Heat shock transcription factor 1	rc_A1172097 EST218092 Rattus norvegicus cDNA, 3' end /clone=RMJUBU88 /clone_end=3' /gb=A1172097 /gi=3712137 /ug=Rn.20418 /len=570
X90475	14229	Q63518	14230	NM_004533	14231	NP_004524	14232	80n	myosin-binding protein	Rat mixed-tissue library Rattus norvegicus cDNA clone r00904 3', mRNA sequence [Rattus norvegicus]
X91988	14233	CAA63043	14234	XM_012642	14235	XP_012642	14236	94	Stat5b protein	X91988 R.norvegicus mRNA for Stat5b protein /cds=UNKNOWN /gb=X91988 /gi=1143541 /ug=Rn.11355 /len=2615
Y08140	14237	CAA69334	14238	NM_004821	14239	NP_004812	14240	76	Rattus norvegicus mRNA for eHand protein	Y08140 RNHLH336 Rattus norvegicus mRNA for eHand protein
Y09365	14241	CAA70542	14242	XM_003736	14243	XP_003736	14244	88	G-protein coupled receptor kinase 6	Y09365cds RRGPCRK6 R.rattus mRNA for G-protein coupled receptor kinase 6

Table 3.

Y09453	14245	CAA70602	14246	NM_000727	14247	NP_000718	14248	91	Calcium channel gamma subunit	Y09453cds RNY09453 R.norvegicus mRNA for calcium channel gamma subunit
Y12178	14249	CAA72878	14250			Null		No Human	R.norvegicus mRNA for bilirubin translocase	Y12178 RNBILITRA R.norvegicus mRNA for bilirubin translocase
Y17295	14251	g2317735	14252	D14662	14253	P30041	14254	91	Rattus norvegicus mRNA for thiol-specific antioxidant protein (1-Cys peroxiredoxin)	Y17295cds RNO17295 Rattus norvegicus mRNA for thiol-specific antioxidant protein (1-Cys peroxiredoxin)
Y17295	14255	CAA76732	14256	NM_004905	14257	NP_004896	14258	91	thiol-specific antioxidant protein	rc_AA892041 EST195844 Rattus norvegicus cDNA, 3' end /clone=AA892041 /gb=3018920 /ug=Rn.2680 /len=606
Z21935	14259	CAA79929	14260	XM_008806		XP_008806		94	Protein kinase rMNK2	Z21935cds RNPROKINA Rattus norvegicus protein kinase rMNK2
Z49748	14261			Null					m4 cholinergic muscarinic receptor	Z49748exon RNM4CMREC R.norvegicus gene for m4 cholinergic muscarinic receptor
AB012933	14262	O88813	14263	D10040	14264	JX0202	14265	62	Acyl-CoA synthetase 5	"Rattus norvegicus mRNA for acyl-CoA synthetase 5, complete cds"
AF009604	14266	O35180	14267	X99664	14268	Q99963	14269	86	SH3 domain protein 2 C1	"Rattus norvegicus SH3p13 mRNA, partial cds /cds=(0,875) /gb=AF009604 /gi=2293469 /ug=Rn.5909 /len=1216"
AF012347	14270	g2689629	14271	D83761	14272	g2251106	14273	95	Smad8	"Rattus norvegicus Smad8 mRNA, complete cds /cds=(152,1456) /gb=AF012347 /gi=2689628 /ug=Rn.10862 /len=1611"

Table 3.

AF016184	14274	g2367617	14275	U20760	14276	P41180	14277	33	Putative pheromone receptor (Go-VN7) [Human extracellular calcium-sensing receptor -low hom]	"Rattus norvegicus putative pheromone receptor (Go-VN7) mRNA, complete cds /cds=(24,2417) /gb=AF016184 /gi=2367616 /ug=Rn.10812 /len=3909"
AF029357	14278	g2570935	14279	AL022727	14280	g3757726		48	Olfactory receptor-like protein	"AF029357cds Rattus norvegicus olfactory receptor-like protein gene, complete cds"
AF038591	14281	g2760920	14282	X95762	14283	g2584787	14284	95	Cytoplasmic aminopeptidase P (APP)	"Rattus norvegicus cytoplasmic aminopeptidase P (APP) mRNA, complete cds /cds=(44,1915) /gb=AF038591 /gi=2760919 /ug=Rn.3473 /len=2381"
AF039212	14285	AAB94937	14286	AF297093	14287	AAG30417	14288	64	UDP-glucuronosyltransferase 1A7 (UGT1A7) gene	"AF039212mRNA Rattus norvegicus UDP-glucuronosyltransferase 1A7 (UGT1A7) gene, promoter and partial cds"
AF039218	14289	T14039	14290	AC002563	14291	O14578	14292	96	Postsynaptic density protein (citron)	"Rattus norvegicus postsynaptic density protein (citron) mRNA, complete cds /cds=(612,5468) /gb=AF039218 /gi=2745839 /ug=Rn.10876 /len=5952"
AF053990	14293	I59362		U20760	14294	A56715	14295	43	Vomeroneasal neurons putative pheromone receptor V2R2B	"Rattus norvegicus tissue-type vomeronasal neurons putative pheromone receptor V2R2B mRNA, partial cds /cds=(0,692) /gb=AF053990 /gi=2996023 /ug=Rn.9651 /len=719"
NM_021593	14296	NP_067604	14297	NM_003679	14298	NP_003670	14299	79	Kynurenine 3-hydroxylase	"Rattus norvegicus kynurenine 3-hydroxylase mRNA, complete cds"
AF072892	14300	S28764	14301	U16306	14302	P13611	14303	60	Proteoglycan PG-M V3 isoform	"Rattus norvegicus versican V3 isoform precursor, mRNA, complete cds"

Table 3.

NM_013149	14304	NP_037281	14305	NM_001621	14306	NP_001612	14307	67	Aryl hydrocarbon receptor	AF082126	"Rattus norvegicus aryl hydrocarbon receptor (AHR) mRNA, alternatively spliced longer insertion variant, complete cds"
D14988	14308	I52849	14309	X70222	14310	S28155	14311	63	Hydroxysteroid sulfotransferase		"RATHSS2 Rat mRNA for hydroxysteroid sulfotransferase subunit, complete cds"
D17349	14312	BAA04164			14313	NP_000758	14314	65	"Cytochrome P450, subfamily IIB (phenobarbital-inducible), polypeptide 6 (see 257 on this sheet)"		"D17349cds RATCYP6 Rat cytochrome P450 2B15 gene, exon 9"
D84418	14315	P52925	14316	X62534	14317	2001363A	14318	98	"High mobility group protein 2 (23, 45, 52 on d.s.)"		"Rat mRNA for chromosomal protein HMG2, complete cds /cds=(74,706) /gb=D84418 /gi=1304192 /ug=Rn.2874 /len=1072"
D88586	14319	P70709	14320	X15161	14321	P12724	14322	55	Rat mRNA for eosinophil cationic protein		"Rat mRNA for eosinophil cationic protein, complete cds /cds=(63,530) /gb=D88586 /gi=1669582 /ug=Rn.10626 /len=711"
NM_031016	14323	NP_112278	14324	AF385588	14325	AAK68113	14326	86	Muscarinic receptor m2	J03025	"Rat muscarinic cholinergic receptor mRNA, complete cds /cds=(451,1851) /gb=J03025 /gi=203461 /ug=Rn.10752 /len=2483"
J03577	14327	P17267	14328	M63154	14329	P27352	14330	79	Gastric intrinsic factor		"Rat gastric intrinsic factor mRNA, complete cds /cds=(12,1277) /gb=J03577 /gi=204683 /ug=Rn.10954 /len=1466"
J03806	14331	A31317	14332	M34667	14333	P19174	14334	96	"Phospholipase C, gamma 1"		"Rat phospholipase C mRNA, complete cds /cds=(94,3966) /gb=J03806 /gi=206323 /ug=Rn.11243 /len=5106"

Table 3.

J05509	14335	P18125	14336	X56088	14337	JH0659	14338	82	Cytochrom P450 (cholesterol hydroxylase 7 alpha) (see 257 on this sheet)
K03041	14339	OWRT	14340	D00230	14341	P00480	14342	91	"J05509CompleteSeq Rat cytochrome P450 cholesterol 7-alpha-hydroxylase (P450 VII) mRNA, complete cds /cds=UNKNOWN /gb=J05509 /gi=203204 /ug=Rn.10737 /len=3561"
L02634	14343	AAA92110	14344	S42457	14345	AAB22778	14346	80	K03041mRNA RATOTCB Rat (Sprague-Dawley) ornithine carbamoyltransferase mRNA
L03294	14347	Q06000	14348	M15856	14349	LIHUL	14350	92	RATPHOTOA Rat cGMP-gated rod photoreceptor channel related mRNA sequence
L07380	14351	NP_036982	14352	XM_030066	XP_030066			79	"Rattus norvegicus lipoprotein lipase mRNA, complete cds /cds=(174,1598) /gb=L03294 /gi=205214 /ug=Rn.3834 /len=3617"
L13202	14353	AAA41319	14354	NM_012183	14355	NP_036315	14356	100	RATGHRFRG Rattus rattus (clone pGR2) growth hormone-releasing factor receptor mRNA sequence
									"RATHFH2 Rattus norvegicus HNF-3/forkhead homolog-2 (HFH-2) mRNA, complete cds"

Table 3.

L14002	14357								PolymERIC immunoglobulin receptor AATTAA-containing 3'UTR mRNA sequence	L14002UTR#1 RATPIGRB Rattus norvegicus polymeric immunoglobulin receptor AATTAA-containing 3'UTR mRNA sequence
L14322	14358	P10687	14359		AB011153	14360		g3043686	Phospholipase C-beta1	"L14322exon RATPHOSPO Rattus norvegicus phospholipase C-beta1 gene, complete exon"
L32601	14361	P51652	14362	D17793		14363		P42330	20-alpha-hydroxysteroid dehydrogenase (20-alpha-HSD)	"RAT20AHYDE Rat 20 alpha-hydroxysteroid dehydrogenase mRNA, complete cds"
D86373	14365	BAA25372	14366		XM_031118			XP_031118	acyl-coenzyme A:cholesterol acyltransferase (ACACT) mRNA, complete cds	"L42293mRNA MUSACACT Mus musculus acyl-coenzyme A:cholesterol acyltransferase (ACACT) mRNA, complete cds"
L43592	14367	g1161230	14368	AF152498		14369		g5457045	Protocadherin-3 (pcdh3) mRNA, complete cds	"Rattus norvegicus protocadherin-3 (pcdh3) mRNA, complete cds /cds=(137..2530) /gb=L43592 /gi=1161229 /ug=Rn.10166 /len=3017"
M18530	14371	a204785	14372	S65921		14373		a255520	"Anti-acetylcholine receptor antibody gene, kappa-chain, VJC region"	"M18530cds RATIGKAI Rat (R.sordidus) germline kappa-chain C-region gene, 3' end"

Table 3.

M18853	14375	F27579			M15565	14376	g338766	14377	58	Rat T-cell receptor active alpha-chain C-region mRNA, partial cds, clone TRA29 /cds=(0.796) /gb=M18853 /gi=207163 /ug=Rn.9949 /len=1110"
M21622	14378	P12840		14379	X06948	14380	P12319	14381	48	"Rat high-affinity IgE receptor (Fc-epsilon-R-I) mRNA, complete cds, clones R8-2b and R3-3 /cds=(176,853) /gb=M21622 /gi=204109 /ug=Rn.9677 /len=1179"
M21842	14382	S20791			X04714	14383	g28780	14384	64	"Rat apolipoprotein B (apoB) mRNA, 3' end /cds=(0.212) /gb=M21842 /gi=202952 /ug=Rn.10711 /len=405"
M25157	14385	P07632		14386	K00065	14387	DSHUCZ	14388	83	"M25157mRNA RATSODCZL Rat Cu, Zn superoxide dismutase mRNA, complete cds"
M33201	14389	g206459		14390	K03475	14391	g190672	14392	71	"Rat pulmonary surfactant-associated glycoprotein A (SP-A) mRNA, complete cds /cds=(55,801) /gb=M33201 /gi=206460 /ug=Rn.11343 /len=1602"
M34134	14393	P18342		14394	M19713	14395	P09493	14396	94	"Rat brain alpha-tropomyosin (TMBR-2) mRNA, complete cds /cds=(136,891) /gb=M34134 /gi=207356 /ug=Rn.1033 /len=1004"
M34384	14397	P21263		14398	X65964	14399	P48681	14400	45	"Rat nestin mRNA, complete cds /cds=(127,5544) /gb=M34384 /gi=205663 /ug=Rn.9701 /len=5946"
M35601	14401	P06399		14402	NM_021871	14403	1FZA	14404	59	"Rat alpha-fibrinogen mRNA, 3' end /cds=(0.281) /gb=M35601 /gi=204139 /ug=Rn.5500 /len=511"

Table 3.

M57682	14405	P27732	14406	M83566	14407	A38198	14408	95	"Calcium channel, voltage-dependent, L type, alpha 1D subunit"	"Rat brain calcium channel alpha-1 subunit mRNA, complete cds /cds=(526,5466) /gb=M57682 /gi=206573 /ug=Rn.9826 /len=6978"
M64791	14409	AAA42066	14410			g1911490		65	Salivary proline-rich protein (RP4) gene	"Rat salivary proline-rich protein (RP4) gene, complete cds /cds=(34,642) /gb=M64791 /gi=206715 /ug=Rn.9844 /len=881"
M64793	14411	AAA42064	14412			A37232		36	Rat salivary proline-rich protein (RP15)	"Rat salivary proline-rich protein (RP15) gene, complete cds /cds=(34,858) /gb=M64793 /gi=206711 /ug=Rn.9842 /len=1572"
M77479	14413	P26435	14414	L21893	14415	Q14973	14416	78	"Solute carrier family 10 (sodium/bile acid cotransporter family), member 1"	"Rattus norvegicus sodium/bile acid cotransporter mRNA, complete cds /cds=(121,1209) /gb=M77479 /gi=206853 /ug=Rn.9913 /len=1663"
M80570	14417	I59558	14418	M96670	14419	A48980	14420	93	"Solute carrier family 6 (neurotransmitter transporter, dopamine), member 3"	"Rat dopamine transporter mRNA, complete cds /cds=(62,1921) /gb=M80570 /gi=310097 /ug=Rn.10093 /len=3386"
M88111	14421	P28573	14422	S80071	14423	Q99884	14424	97	"Rattus norvegicus high affinity L-proline transporter mRNA, complete cds"	"Rattus norvegicus high affinity L-proline transporter mRNA, complete cds /cds=(84,2069) /gb=M88111 /gi=205234 /ug=Rn.9663 /len=2722"

Table 3.

M89906	14425	AAA40918	14426	NM_021050	14427	NP_066388	14428	86	Cystic fibrosis transmembrane conductance regulator	"RATCFTR Rattus norvegicus cystic fibrosis transmembrane conductance regulator (CFTR) gene, partial cds"
AF056034	14429	g4003519	14430	XM_039665	14431	XP_039665	14432	79	F-actin binding protein b-Nexilin	"EST188920 Rattus norvegicus cDNA, 3' end /clone=RHEAA88 /clone_end=3' /gb=AA799423 /gi=2862378 /ug=Rn.6183 /len=625"
AA799464	14433	AB026906	14434	BAA81889	14435			90	SDHD gene for small subunit of cytochrome b of succinate dehydrogenase	"EST188961 Rattus norvegicus cDNA, 3' end /clone=RHEAB35 /clone_end=3' /gb=AA799464 /gi=2862419 /ug=Rn.3792 /len=662"
NM_010757	14436	NP_034887	14437	AF055376	14438	AAC27037	14439	53	Short form transcription factor C-MAF (c-maf) (46 on d.s.)	"EST189241 Rattus norvegicus cDNA, 3' end /clone=RHEAE74 /clone_end=3' /gb=AA799744 /gi=2862699 /ug=Rn.3818 /len=616"
AA799792	14440	P07882	14441	XM_005330		1717328A		78	Carboxyl ester lipase	"EST189289 Rattus norvegicus cDNA, 3' end /clone=RHEAF41 /clone_end=3' /gb=AA799792 /gi=2862747 /ug=Rn.7461 /len=615"
AA799883	14442			Null					EST(not recognised)	"EST189380 Rattus norvegicus cDNA, 3' end /clone=RHEAG50 /clone_end=3' /gb=AA799883 /gi=2862838 /ug=Rn.6252 /len=496"
AA800005	14443	Q9QZA6	14444	U14650	14445	P48509	14446	92	Platelet endothelial tetraspan antigen-3	"EST189502 Rattus norvegicus cDNA, 3' end /clone=RHEA120 /clone_end=3' /gb=AA800005 /gi=2862960 /ug=Rn.1465 /len=628"
AA800210	14447			Null					EST(not recognised)	"EST189707 Rattus norvegicus cDNA, 3' end /clone=RHEAM47 /clone_end=3' /gb=AA800210 /gi=2863165 /ug=Rn.13244 /len=582"

Table 3.

AA800277	14448	Q00380	14449	X97074	14450	P53680	14451	43	"ESTs, Weakly similar to AP17 CLATHRIN COAT ASSEMBLY PROTEIN AP17 [R.norvegicus]"	"EST189774 Rattus norvegicus cDNA, 3' end /clone=RHEAN32 /clone_end=3' /gb=AA800277 /gi=2863232 /ug=Rn.6307 /len=698"
AA818240	14452	P49791	14453	Z25535	14454	P49790	14455	82	Nuclear pore complex protein	"UI-R-A0-ah-h-10-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-ah-h-10-0-UI /clone_end=3' /gb=AA818240 /gi=2888120 /ug=Rn.1347 /len=603"
AA858570	14456			Null					EST(not recognised)	"UI-R-E0-bq-f-02-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-bq-f-02-0-UI /clone_end=3' /gb=AA858570 /gi=2948910 /ug=Rn.754 /len=520"
AA859916	14457			Null					EST(not recognised)	"UI-R-E0-cg-b-10-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cg-b-10-0-UI /clone_end=3' /gb=AA859916 /gi=2949436 /ug=Rn.21405 /len=536"
AJ302650	14458	CAC16090	14459	XM_047360		XP_047360		38	Rattus norvegicus mRNA for RP59 protein	"UI-R-E0-ca-a-11-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-ca-a-11-0-UI /clone_end=3' /gb=AA859992 /gi=2949512 /ug=Rn.22633 /len=463"
AA866221	14460			Null					EST(not recognised)	"UI-R-A0-bg-e-06-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-bg-e-06-0-UI /clone_end=3' /gb=AA866221 /gi=2961667 /ug=Rn.3002 /len=146"
AA866290	14461			Null					EST(not recognised)	"UI-R-A0-ac-e-09-0-UI.s3 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-ac-e-09-0-UI /clone_end=3' /gb=AA866290 /gi=2961751 /ug=Rn.3045 /len=341"

Table 3.

AA866472	14462	2008109A		M86667	14463	S40510	14464	97	Nucleosome assembly protein 1-like	"UI-R-E0-br-g-09-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-br-g-09-0-UI /clone_end=3' /gb=AA866472 /gi=2961933 /ug=Rn.3121 /len=522"
AA874830	14465	KXRTS		L13720	14466	B48089	14467	75	"ESTs, Weakly similar to VITAMIN K-DEPENDENT PROTEIN S PRECURSOR [R.norvegicus]"	"UI-R-E0-cg-f-04-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cg-f-04-0-UI /clone_end=3' /gb=AA874830 /gi=2979778 /ug=Rn.3138 /len=396"
AA874857	14468	AC004854	14469	Null				89	EST	"UI-R-E0-cg-h-12-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cg-h-12-0-UI /clone_end=3' /gb=AA874857 /gi=2979805 /ug=Rn.3147 /len=454"
X56328	14470	CAA39767	14471	NM_005330	14472	NP_005321	14473	76	Epsilon 3 globin gene	"UI-R-E0-cu-c-08-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cu-c-08-0-UI /clone_end=3' /gb=AA875199 /gi=2980147 /ug=Rn.2827 /len=140"
AA875407	14474			Null					EST(not recognised)	"UI-R-E0-cs-a-11-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cs-a-11-0-UI /clone_end=3' /gb=AA875407 /gi=2980355 /ug=Rn.2908 /len=284"
AA891068	14475	g205986		S75037	14476	g802150		90	Peptidylglycine alpha-amidating monooxygenase	"EST194871 Rattus norvegicus cDNA, 3' end /clone=RHEAO60 /clone_end=3' /gb=AA891068 /gi=3017947 /ug=Rn.1121 /len=412"
AA891108	14477			Null					EST(not recognised)	"EST194911 Rattus norvegicus cDNA, 3' end /clone=RHEAP21 /clone_end=3' /gb=AA891108 /gi=3017987 /ug=Rn.22691 /len=513"

Table 3.

AA891834	14478		Null					EST(not recognised) "Homo sapiens, clone RP11-2812, complete sequence"		"EST195637 Rattus norvegicus cDNA, 3' end /clone=RKIAH39 /clone_end=3' /gb=AA891834 /gi=3018713 /ug=Rn.17094 /len=669"
AA891922	14479	AC021396	14480	Null			86			"EST195725 Rattus norvegicus cDNA, 3' end /clone=RKIAI64 /clone_end=3' /gb=AA891922 /gi=3018801 /ug=Rn.3690 /len=592"
AY027527	14481	AAK14799	14482	NIM_016931	14483	NP_058627	14484	NADPH oxidase 4	AA892258	"EST196061 Rattus norvegicus cDNA, 3' end /clone=RKIAO28 /clone_end=3' /gb=AA892258 /gi=3019137 /ug=Rn.14744 /len=556"
AA892551	14485			Null				EST		"EST196354 Rattus norvegicus cDNA, 3' end /clone=RKIAS76 /clone_end=3' /gb=AA892551 /gi=3019430 /ug=Rn.14765 /len=112"
AA892762	14486			T12455			88	"ESTs, Moderately similar to T12455 hypothetical protein DKFZp564H2023.1 [H.sapiens]"		"EST196565 Rattus norvegicus cDNA, 3' end /clone=RKIAW93 /clone_end=3' /gb=AA892762 /gi=3019641 /ug=Rn.24893 /len=396"
AA892881	14487			Null				EST(not recognised)		"EST196684 Rattus norvegicus cDNA, 3' end /clone=RKIAY45 /clone_end=3' /gb=AA892881 /gi=3019760 /ug=Rn.14800 /len=545"
AA893043	14488			Null				EST(not recognised)		"EST196846 Rattus norvegicus cDNA, 3' end /clone=RKIBB45 /clone_end=3' /gb=AA893043 /gi=3019922 /ug=Rn.24959 /len=465"
AA893191	14489			Null				EST(not recognised)		"EST196994 Rattus norvegicus cDNA, 3' end /clone=RKIBD35 /clone_end=3' /gb=AA893191 /gi=3020070 /ug=Rn.3301 /len=654"

Table 3.

AA893314	14490	T12477	14492	J02943	14493	A28321	14494	56	"ESTs, Moderately similar to T12477 hypothetical protein DKFZp564L0862.1 [H.sapiens]"	"EST197117 Rattus norvegicus cDNA, 3' end /clone=RKIBE92 /clone_end=3' /gb=AA893314 /gi=3020193 /ug=Rn.22749 /len=255"
AA893495	14491	P31211	14492	J02943	14493	A28321	14494	56	"ESTs, Highly similar to CORTICOSTEROID-BINDING GLOBULIN PRECURSOR [R.norvegicus]"	"EST197298 Rattus norvegicus cDNA, 3' end /clone=RLIAD19 /clone_end=3' /gb=AA893495 /gi=3020374 /ug=Rn.2374 /len=656"
AA893592	14495	Q62703	14496	D42073	14497	Q15293	14498	94	"ESTs, Weakly similar to RETICULOCALBIN 2 PRECURSOR [R.norvegicus]"	"EST197395 Rattus norvegicus cDNA, 3' end /clone=RPLAC34 /clone_end=3' /gb=AA893592 /gi=3020471 /ug=Rn.3275 /len=592"
AA893671	14499	Q63244	14500	U02310	14501	1923399A	14502	93	"ESTs, Weakly similar to HEPATOCYTE NUCLEAR FACTOR 3 FORKHEAD HOMOLOG 1 [R.norvegicus]"	"EST197474 Rattus norvegicus cDNA, 3' end /clone=RPLAI27 /clone_end=3' /gb=AA893671 /gi=3020550 /ug=Rn.22754 /len=399"

Table 3.

AA893825	14503		Null						EST(not recognised) Peroxisomal integral membrane protein PMP34			"EST197628 Rattus norvegicus cDNA, 3' end /clone=RPLAM06 /clone_end=3' /gb=AA893825 /gi=3020704 /ug=Rn.8976 /len=402"
AJ06341	14504	CAA06984	14505	NM_006358	14506	NP_006349	14507	83		AA894090		"EST197893 Rattus norvegicus cDNA, 3' end /clone=RSPAQ64 /clone_end=3' /gb=AA894090 /gi=3020969 /ug=Rn.3737 /len=556"
AA894337	14508			Null					EST (not recognised)			"EST198140 Rattus norvegicus cDNA, 3' end /clone=RSPAW90 /clone_end=3' /gb=AA894337 /gi=3021216 /ug=Rn.7739 /len=397"
NM_012520	14509	NP_036652	14510	NM_001752	14511	NP_001743	14512	88	Catalase	AA926149		"UI-R-A1-eq-h-04-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A1-eq-h-04-0-UI /clone_end=3' /gb=AA926149 /gi=3073285 /ug=Rn.3001 /len=449"
NM_031510	14513	NP_113698	14514	XM_028869	14515	XP_028869	14516	93	"Isocitrate dehydrogenase 1 (NADP+), soluble (IDH1)"	AA944025		"EST199524 Rattus norvegicus cDNA, 3' end /clone=REMAA43 /clone_end=3' /gb=AA944025 /gi=3103941 /ug=Rn.3561 /len=537"
NM_022537	14517	NP_071982	14518	X54393	14519	CAA38264	14520	30	Prolactin-like protein D	AA946542		"EST202041 Rattus norvegicus cDNA, 3' end /clone=RSPAZ69 /clone_end=3' /gb=AA946542 /gi=3106458 /ug=Rn.1928 /len=637"
NM_024147	14521	NP_077061	14522	NM_016337	14523	NP_057421	14524	75	RNB6	AA997968		"UI-R-C0-hu-b-03-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C0-hu-b-03-0-UI /clone_end=3' /gb=AA997968 /ug=Rn.9790 /len=529"
AI008741	14525	O35776	14526	U54804	14527	Q92819	14528	98	Hyaluronan synthase 2			"EST203192 Rattus norvegicus cDNA, 3' end /clone=REMBBC59 /clone_end=3' /gb=AI008741 /ug=Rn.10781 /len=501"
NM_022713	14529	NP_073204	14530	NM_003241	14531	NP_003232	14532	52	Dorsal protein 1	AI013795		"EST208470 Rattus norvegicus cDNA, 3' end /clone=RSPBS90 /clone_end=3' /gb=AI013795 /ug=Rn.9964 /len=246"
AF057025	14533	P35859	14534	AF177765	14535	AAF05316	14536	62	Toll-like receptor 4	AI030997		"UI-R-C0-je-d-11-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C0-je-d-11-0-UI /clone_end=3' /gb=AI030997 /ug=Rn.14534 /len=316"

Table 3.

AI044423	14537	P41276	14538	L28997	14539	P40616	14540	98	ADP- ribosylation factor-like 1	"UI-R-C1-jw-a-11-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C1- jw-a-11-0-UI /clone_end=3' /gb=AI044423 /ug=Rn.11401 /len=387"
AI071511	14541	T41751		AB011399	14542	P55196	14543	91	Afadin (31 on d.s.)	"UI-R-C2-nc-h-01-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C2- nc-h-01-0-UI /clone_end=3' /gb=AI071511 /ug=Rn.58 /len=427"
AI072435	14544	A23677	14545	J03827	14546	I39382	14547	97	Y box protein 1	"UI-R-C2-nk-c-03-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C2- nk-c-03-0-UI /clone_end=3' /gb=AI072435 /ug=Rn.3181 /len=488"
AI104389	14548	1TOH	14549	M20912	14550	I55282		88	Tyrosine hydroxylase	"EST213678 Rattus norvegicus cDNA, 3' end /clone=RHECC67 /clone_end=3' /gb=AI104389 /gi=3708757 /ug=Rn.11082 /len=488"
AI175900	14551	P41156	14552	J04101	14553	TVHUET	14554	98	transcription factor ets-1 Retinoblastoma 1 (including osteosarcoma)	"EST219472 Rattus norvegicus cDNA, 3' end /clone=ROVBG93 /clone_end=3' /gb=AI175900 /ug=Rn.7142 /len=458"
AI178012	14555	P33568	14556	NM_000321	14557	NP_000312	14558	90		"EST221669 Rattus norvegicus cDNA, 3' end /clone=RPLCJ92 /clone_end=3' /gb=AI178012 /ug=Rn.3485 /len=472"
AI232256	14559	P04166	14560	AB009282	14561	O43169	14562	73	"Cytochrome b5, outer mitochondrial membrane isoform"	"EST228944 Rattus norvegicus cDNA, 3' end /clone=RKIBZ24 /clone_end=3' /gb=AI232256 /ug=Rn.10249 /len=566"
AI638962	14563			Null					EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone rx01189 3', mRNA sequence [Rattus norvegicus]"
AI638987	14564			Null					EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone rx00568 3', mRNA sequence [Rattus norvegicus]"
AI638988	14565			Null					EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone rx00508 3', mRNA sequence [Rattus norvegicus]"

Table 3.

AI639074	14566				Null			EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone x01925 3', mRNA sequence [Rattus norvegicus]"
AI639112	14567				Null			EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone x04824 3', mRNA sequence [Rattus norvegicus]"
AI639195	14568				Null			EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone x04881 3', mRNA sequence [Rattus norvegicus]"
AI639200	14569				Null			EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone x03240 3', mRNA sequence [Rattus norvegicus]"
AI639217	14570				Null			EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone x01420 3', mRNA sequence [Rattus norvegicus]"
AI639219	14571				Null			EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone x04760 3', mRNA sequence [Rattus norvegicus]"
AI639225	14572				Null			EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone x05060 3', mRNA sequence [Rattus norvegicus]"
AI639247	14573	AY009106	14574	14575	AAG49397		80	"EST, Moderately similar to T17296 hypothetical protein DKFZp434I092.1 [H.sapiens]"	"Rat mixed-tissue library Rattus norvegicus cDNA clone x03939 3', mRNA sequence [Rattus norvegicus]"
AI639315	14576				Null			EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone x04457 3', mRNA sequence [Rattus norvegicus]"
AI639362	14577				Null			EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone x03215 3', mRNA sequence [Rattus norvegicus]"
AI639401	14578	L09190	14579	14580	AAA65582		81	Trichohyalin	"Rat mixed-tissue library Rattus norvegicus cDNA clone x00654 3', mRNA sequence [Rattus norvegicus]"

Table 3.

A1639423	14581		Null				EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone rx03133 3', mRNA sequence [Rattus norvegicus]"
A1639453	14582		Null				EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone rx00152 3', mRNA sequence [Rattus norvegicus]"
NM_031669	14583	NP_113857	14584	No Human	Null		Uterine-specific proline-rich acidic protein	"Rat mixed-tissue library Rattus norvegicus cDNA clone rx02618 3', mRNA sequence [Rattus norvegicus]"
NM_019349	14585	NP_062222	14586	AF273048	14587	AAG34908	Serine/threonine kinase 2	"EST105855 Rattus norvegicus cDNA, 3' end /clone=RPCAT82 /clone_end=3' /gb=H31623 /gi=977040 /ug=Rn.14576 /len=404"
H31753	14589			Null			PC-12 cells (EST)	"EST106113 Rattus norvegicus cDNA, 3' end /clone=RPCAX41 /clone_end=3' /gb=H31753 /gi=977170 /ug=Rn.14591 /len=277"
H33448	14590			Null			EST(not recognised)	"EST109458 Rattus norvegicus cDNA, 3' end /clone=RPNAR85 /clone_end=3' /gb=H33448 /gi=978865 /ug=Rn.14640 /len=430"
H33750	14591	A42345	14592	AF151851	14593	AAD34088	"ESTs, Weakly similar to D-BETA-HYDROXYBUTYRATE DEHYDROGENASE PRECURSOR [R.norvegicus]"	"EST110056 Rattus norvegicus cDNA, 3' end /clone=RPNAZ31 /clone_end=3' /gb=H33750 /gi=979167 /ug=Rn.8514 /len=468"
							79	

Table 3.

S46785	14595	P35859	14596	M86826	14597	P35858	14598	77	Insulin-like growth factor binding protein complex acid-labile subunit	"insulin-like growth factor binding protein complex acid-labile subunit [rats, liver, mRNA, 2190 nt]"
S58528	14599	AAB26277	14600	NM_002210	14601	NP_002201	14602	91	"Integrin, alpha V"	"Integrin alpha v subunit [rats, NRK cells, mRNA Partial, 749 nt]"
S65091	14603	XM_002992		XP_002992				87	"Cyclic AMP phosphoprotein, 19kD"	"cyclic AMP-regulated phosphoprotein [rats, mRNA, 1030 nt]"
S76489	14604	P52844	14605	U08098	14606	P49888	14607	71	Estrogen sulfotransferase	"estrogen sulfotransferase isoform 3 [rats, male, liver, mRNA, 1000 nt]"
S78744	14608	AAC60704	14609	Y00692	14610	AAA60181	14611	80	protein S=activated protein C cofactor	"protein S=activated protein C cofactor [rats, liver, mRNA, 3315 nt]"
S79676	14612	AAB35431	14613	XM_040782		XP_040782		70	Interleukin 1 beta converting enzyme	"interleukin-1 beta-converting enzyme [rats, mRNA Partial, 458 nt]"
S79711	14614	AAB21286	14615	NM_000073	14616	NP_000064	14617	64	CD3 gamma-chain	"CD3 gamma-chain [rats, mRNA, 620 nt]"
U07201	14618	P49088	14619	AC005326	14620	g3341715		93	Asparagine synthetase	"Rattus norvegicus asparagine synthetase mRNA, secondary transcript, complete cds /cds=(123,1808) /gb=U07201 /gi=460630 /ug=Rn.11172 /len=2226"
U07683	14621	A48801	14622	U30930	14623	Q16880	14624	93	UDP-glucuronosyltransferase 8	"Rattus norvegicus UDP-galactose-ceramide galactosyltransferase mRNA, complete cds /cds=(70,1695) /gb=U07683 /gi=464025 /ug=Rn.9744 /len=4185"

Table 3.

U08260	14625	178557	14626	L76224	14627	Q14957	14628	57	"Glutamate receptor, ionotropic, N-methyl D-aspartate 2D"	"Rattus norvegicus Sprague-Dawley N-methyl-D-aspartate receptor NMDAR2D subunit mRNA, complete cds /cds=(85,4056) /gb=U08260 /gi=475551 /ug=Rn.10063 /len=4957"
NM_022854	14629	NP_074045	14630	X62167	14631	P02689	14632	59	Testis lipid binding protein	"Rattus norvegicus 15 kDa perforatorial protein PERF-15 mRNA, partial cds /cds=(33,431) /gb=U09022 /gi=538268 /ug=Rn.10078 /len=563"
									U09022	
U10096	14633	P55016	14634	U58130	14635	Q13621	14636	93	(Solute carrier family 12, member 1 (bumetanide-sensitive sodium-[potassium]-chloride cotransporter))"	"Rattus norvegicus Sprague-Dawley bumetanide-sensitive sodium-(potassium)-chloride cotransporter mRNA, complete cds /cds=(215,3502) /gb=U10096 /gi=507772 /ug=Rn.14799 /len=4595"
U10699	14637	JC1465	14638	M31210	14639	P21453	14640	50	G-protein coupled receptor 13	"Rattus norvegicus G-protein coupled receptor pH218 mRNA, complete cds /cds=(147,1205) /gb=U10699 /gi=505647 /ug=Rn.2491 /len=2754"
U30381	14641	Q62806	14642	AF039019	14643	Q9UQR1	14644	97	Zinc finger protein 148	"Rattus norvegicus zinc finger binding protein mRNA, complete cds /cds=(387,2771) /gb=U30381 /gi=1373020 /ug=Rn.11383 /len=2772"
U39206	14645	P51869	14646	AF054821	14647	g2997737	14648	78	P450 4F4 (CYP4F4) (see 257 on this sheet)	"Rattus norvegicus cytochrome P450 4F4 (CYP4F4) mRNA, complete cds /cds=(140,1708) /gb=U39206 /gi=1146435 /ug=Rn.10170 /len=2100"
U57062	14649	g1470062	14650	J03189	14651	g338011	14652	59	Natural killer cell protease 4 (RNKP-4) (47 on d.s.)	"Rattus norvegicus natural killer cell protease 4 (RNKP-4) mRNA, complete cds /cds=(9,755) /gb=U57062 /gi=1470061 /ug=Rn.10533 /len=868"

Table 3.

U67138	14653	g1864089	14654	AF009204	14655	g2454510	87	PSD-95/SAP90-associated protein-2	"Rattus norvegicus PSD-95/SAP90-associated protein-2 mRNA, complete cds /cds=(490,3432) /gb=U67138 /gi=1864088 /ug=Rn.10705 /len=3718"
U69278	14656	O08680	14657	M83941	14658	A38224	95	Eph receptor A3	"Rattus norvegicus eph-related receptor tyrosine kinase homolog (Rek4) mRNA, complete cds /cds=(34,2988) /gb=U69278 /gi=1943913 /ug=Rn.10713 /len=3077"
U70825	14660	P97608	14661	AL096750	14662	g5419885	93	5-oxo-L-prolinase	"Rattus norvegicus 5-oxo-L-prolinase mRNA, complete cds /cds=(105,3971) /gb=U70825 /gi=1732064 /ug=Rn.3066 /len=4003"
U75358	14663	AAB53364	14664	XM_001880		XP_001880	85	myeloma protein kinase (PAK-2)	"RNU75358 Rattus norvegicus myeloma protein kinase (PAK-2) mRNA, partial cds"
U87627	14665	Q63344	14666	U81800	14667	O15427	88	Monocarboxylate transporter	"Rattus norvegicus putative monocarboxylate transporter (MCT3) mRNA, complete cds /cds=(89,1504) /gb=U87627 /gi=2463650 /ug=Rn.10826 /len=2118"
U89744	14669	g1890275	14670	X63564	14671	P24928	30	Rat putative cell surface antigen	"Rattus norvegicus putative cell surface antigen mRNA, complete cds /cds=(16,1659) /gb=U89744 /gi=1890274 /ug=Rn.10719 /len=2636"
U90215	14673	AAB49989	14674	NM_005668	14675	NP_005659	97	Polysialyltransferase (51 on d.s.)	"RNU90215 Rattus norvegicus polysialyltransferase mRNA, partial cds"
X52082	14677	P17982	14678	S74683	14679	P52961	42	RT6.2	X52082cds RNRT61 Rat mRNA for T-cell alloantigen RT6.1
X52952	14681	P00539	14682	J00119	14683	TVHUMS	72	Moloney murine sarcoma viral (v-mos) oncogene homolog	"Rat mRNA for c-mos /cds=(846,1865) /gb=X52952 /gi=55965 /ug=Rn.10341 /len=3220"
X63446	14685	A32827	14686	M16961	14687	WOHU	63	Alpha 2 HS-glycoprotein alpha 2 (fetuin)	"Rattus norvegicus mRNA for fetuin /cds=(31,1089) /gb=X63446 /gi=56139 /ug=Rn.3880 /len=1456"

Table 3.

X66842	14689	P30994	14690	X77307	14691	P41595	14692	81	5-hydroxytryptamine (serotonin) receptor 2B	"Rattus norvegicus SRL mRNA for stomach fundus serotonin receptor /cds=(226,1665) /gb=X66842 /gi=57304 /ug=Rn.10425 /len=2003"
X74549	14693	S41066	14694	X03498	14695	P05546	14696	85	Leuserpin-2	"Rattus norvegicus mRNA (ris2var1) for leuserpin-2 /cds=(119,1558) /gb=X74549 /gi=433612 /ug=Rn.10553 /len=2082"
X77209	14697	P55063	14698	AF134726	14699	g4529894		94	Hsp70-3 gene (7 on d.s.)	"Rattus norvegicus Hsp70-3 gene /cds=(13,1938) /gb=X77209 /gi=1814002 /ug=Rn.22532 /len=2546"
X89701	14700	CAA61848	14701	XM_036497	14702	XP_036497	14703	71	TPCR13 protein	X89701cds RNTPCR13P Rattus norvegicus mRNA for TPCR13 protein
NM_021741	14704	NP_068509	14705	AK022705	14706	BAB14190	14707	67	IP63 protein	X99330cds RNIAP27 Rattus norvegicus mRNA for IP63 protein
Y17295	14708	g2317735	14709	D14662	14710	P30041	14711	91	Rattus norvegicus mRNA for thiol-specific antioxidant protein (1-Cys peroxiredoxin)	Y17295cds RNO17295 Rattus norvegicus mRNA for thiol-specific antioxidant protein (1-Cys peroxiredoxin)
NM_017193	14712	NP_058889	14713	NM_016228	14714	NP_057312	14715	69	Kynurenine aminotransferase II	"Rattus norvegicus mRNA for kynurenine/alpha-aminoadipate aminotransferase /cds=(112,1389) /gb=Z50144 /gi=1050751 /ug=Rn.11133 /len=1807"

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

Rat Gene Accession No.	Rat Protein Access. No.	Human Protein Access. No.	Human Gene Access. No.	% homolog	Identity	Former Identifier	Naïve Intensity	CFA Intensity	Affymetrix Ratio	Ratio CFA/Naïve
AA892799					Mus musculus 18 days embryo cDNA, RIKEN		6557.7	400707.1	53.8	61.1048
Z46882	CAA86981	NP_001377	NM_001386	96	TOAD-64		134.4	8061.4	37.8	59.9807
M73701	AAA42149	NP_003273	NM_003282	92	troponin I.		20	2184.1	19.9	109.205
D38222	g1054835	Q16849	L18983							
X78593	CAA55329	AAB60403	U36310	86	Tyrosine phosphatase-like protein IA-2a		20	2179.1	14.6	108.955
NM_022245	NP_071581	XP_048473	XM_048473	89	Glycerol-3-phosphate dehydratase	U83880	255.5	4116	12.9	16.1096
X16623	CAA34620	XP_003704	XM_003704	88	cytochrome b5 (Cyp5)	AA817685	20	3065.3	11.9	153.265
X78848	CAA55405	NP_000838	NM_000847	80	Neuraxin		20	2161.1	10.9	108.055
M11794	AAA41640		No Human	75	glutathione S-transferase Yc1 subunit	S72505	905.7	4082.7	10.3	4.50778
D28966	BAA06091	NP_000951	NM_000960	74	metallothionein	AI176456	5.1	1769.5	9.9	346.961
X63594	CAA45138	NP_065390	NM_020529	85	prostacyclin receptor		20	1475.1	8.9	73.755
NM_012949	NP_037081	XP_008524	XM_008524	93	NF-KAPPA B INHIBITOR ALPHA muscle specific enolase	AA851223	20	771.4	8.5	38.57
H31118					Mus musculus adult male lung cDNA, RIKEN		20	994.7	8.4	49.735
U70372	AAC53031		no human				211.7	1729.9	8.2	8.17147
L19931	AAA16532	NP_006740	NM_006749		PAM COOH-terminal interactor protein 2		733.9	1573.5	7.8	2.14403
X53087	CAA37256	NP_000580	NM_000589	81	amphotropic murine retrovirus receptor		20	1400.4	7.6	70.02
X95399				43	interleukin 4		20	1643.6	7.6	82.18
D32209	BAA06908	NP_006296	NM_006305	81	M31 protein, exon 9.	AI009141	20	1524	7.1	76.2
X53565	CAA37637	AAC39542	AF027516		leucine-rich acidic nuclear protein		20	1198.8	6.6	59.94
L24897	AAA72046	XP_052590	XM_052590	44	trans-Golgi network integral membrane protein TGN38		20	1176	6.1	58.8
X13905	CAA32105	NP_004152	NM_004161	86	myosin heavy chain		3814.4	22938.6	6	6.01368
AB017912	BAA33453	NP_005892	NM_005901	91	rab1B protein		135.1	1101	5.9	8.14952
J03179	AAA41083	NP_001343	NM_001352	89	Smad2 protein		20	788.7	5.8	39.435
L15079	AAA02937	NP_061337	NM_018849	68	D-binding protein		20	791.7	5.7	39.585
AA800908				69	P-glycoprotein		20	1545.9	5.5	77.295
K00996	AAA41029	NP_000758	NM_000767	72	EST(not recognised)		20	894.6	5.3	44.73
M16407	AAA40661	NP_000731	NM_000740	84	cytochrome p-450e		173.1	1361.1	5.3	7.86308
					muscarinic acetylcholine receptor m3		173.9	1031.8	5.3	5.93329

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

AA892338				Mus musculus adult male colon cDNA, RIKEN		3.1	548.9		3.8	177.065
J04792	AAA66286	NP_002530	NM_002539	91	Ornithine decarboxylase		878.3	1757.8	3.8	2.00137
M86758	AAA41128	NP_005411	NM_005420	73	estrogen sulfotransferase		152.1	774.2	3.8	5.09007
X59736	CAA42414	XP_011329	XM_011329	95	sarcomeric mitochondrial creatine kinase		145.1	639.7	3.8	4.40868
AA800156					Mus musculus 0 day neonate skin cDNA, RIKEN	20		643.3	3.7	32.165
X00975	P04466	AAA91848	M21812	99	Myosin, light polypeptide 2, alkali; ventricular, skeletal, slow	4186.9		18794.8	3.7	4.48895
X16554	KIRTR1	KIHUR1	Y00971	100	Phosphoribosyl pyrophosphate synthetase 1	1418.8		1640.1	3.7	1.15598
AA892565					Mus musculus adult male kidney cDNA, RIKEN	20		1367.1	3.6	68.355
AF007890	AAC23442	0801190A	NM_000365	49	Rattus norvegicus resection-induced TPI (rs11) mRNA	220.5		1123.7	3.6	5.09615
AF077354	Q63617	P34932	AB023420	95	Ischemia responsive 94 kDa protein (irp94)	680.5		2473.3	3.6	3.63453
A1639532		XP_029894	XM_029894	90n	troponin C2, fast	4199.6		17909.7	3.6	4.26462
L00382	AAA42289	NP_003280	NM_003289	68	beta-tropomyosin and fibroblast tropomyosin 1	194		706.3	3.6	3.64072
A1070967	I59334	P39687	X75090	88	Acid nuclear phosphoprotein 32 (leucine rich)	267.8		925.2	3.5	3.45482
D87839	BAA25570	XP_007904	XM_007904	90	beta-alanine oxoglutarate aminotransferase	219.1		763.8	3.5	3.48608
U62316	AAB04023	AAC13721	AF058056		Solute carrier family 16 (monocarboxylic acid transporters), member 7					
A01157	CAA00136	NP_004181	NM_004190	72	prelingual lipase	337		922.6	3.5	2.73769
AF334104	AAK29403	XP_052300	XM_052300	74	nucleolar protein GU2	280.7		1021.4	3.4	3.63876
AA875527				89n		725.9		2484.9	3.4	3.4232
AA892294					Mus musculus, clone IMAGE.4222865	20		677.1	3.4	33.855
S79304	AAB21298		no human		EST(not recognised)	121.1		875.9	3.4	7.23287
U10097	AAA21252	XP_027753	XM_027753		cytochrome oxidase subunit I	20		556.1	3.4	27.805
X59736	CAA42414	XP_011329	XM_011329	87	thiazide-sensitive sodium-chloride cotransporter	20		1063.2	3.4	53.16
AF050663				95	sarcomeric mitochondrial creatine kinase	451.9		1318.7	3.4	2.91812
L29281	S50216	A39650	M35663	62	Activity and neurotransmitter-induced early gene 11 (ania-11)	448.7		1466.7	3.3	3.26878
					Protein kinase, interferon-inducible double stranded RNA dependent	137.8		596.3	3.3	4.32729

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

X15734	P13444	Q00266	D49357	S-ADENOSYLMETHIONINE SYNTHETASE ALPHA AND BETA FORMS				
X55812	CAA39332	NP_001831	NM_001840	95	95	189.5	744.1	3.3
X96663	CAA65444	NP_003920	NM_003929	95	95	35.2	683.2	3.3
AA893237				93	93	247.4	780.9	3.2
AA945583	O70351	Q99714	NM_004493			1382.9	5432.9	3.2
AB001982	BAA21777	XP_003199	XM_003199	88	88	311.3	993.4	3.2
AF000899	AAC82319	XP_037529	XM_037529	90	90	202	735.4	3.2
AF048828	AAD02476	MMHUP3	L06132	83n	93	497.6	1616.1	3.2
AI639143						1207.1	3877.2	3.2
H31914	P13383	P19338	M60858	84	84	20	500.9	3.2
L00088	AAA98533	XP_030823	XM_030823	85	85	194.3	620.8	3.2
L23863		XP_012027	XM_012027	88n	88n	3003.4	9703.4	3.2
M10140	AAA40935	XP_030967	XM_030967			861.8	832.6	3.2
AA799637				89	89	11220.6	36189.2	3.2
AA894282						80.3	867.1	3.1
AB018104	BAA35123	NP_002534	NM_002543			352.5	1086.9	3.1
AI045858		XP_027074	XM_027074	59	59	4.8	578.2	3.1
AI639304								
AI639490						228	818.5	3.1
AF003598	AAB61241	XP_031423	XM_031423	95n	95n	549.1	3388.6	3.1
X02412	CAA26259	XP_029723	XM_029723	88n	88n	144.9	554	3.1
AA859921		CAA27243	X03541	66	66	33.7	553.5	3.1
AF053988	AAC08415		no human			6631.9	20853.9	3.1
NM_009861	NP_033991	NP_001782	NM_001791	100	100	15060	44589.8	3
AI639324						127.1	681.8	3
D45920	BAA08351	NP_006217	NM_006226	88	88	281	852.8	3
						470.9	911.7	3
						117.9	540.5	3

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M58495	AAA41989	NP_000894	NM_000903	82	R.norvegicus NAD(P)H: quinone reductase	34.3	566.1	3	16.5044
U50355	AAC99552	NP_066290	NM_021010	42	neutrophil defensin 4	811.3	2406	3	2.96561
AA799687					EST(not recognised)	166.7	623.8	2.9	3.74205
AA891634					EST (not recognized)	184.8	514.3	2.9	2.78301
X80130	CAA56429	NP_005150	NM_005159	100	alpha-actin cardiac	375.3	1712.2	2.9	4.56222
M80601	AAA42067	XP_035702	XM_035702	83	zinc finger protein (RP8)	321.4	923.7	2.9	2.87399
U80818	AAB39192	NP_008967	NM_007036	74	pineal specific PG25	174.9	736.2	2.9	4.20926
D12524	BAA02094	NP_000213	NM_000222	79	c-kit receptor tyrosine kinase.	20	544.8	2.9	27.24
D13555	BAA02753	XP_043766	XM_043766	85	T cell receptor zeta chain	423.9	649	2.9	1.53102
D88250	BAA25797	XP_006641	XM_006641		ESTs, Weakly similar to JC6554 probable serine proteinase [R.norvegicus]				
E00444		P13284	J03909	76	ESTs, Moderately similar to GILT (GAMMA-INTERFERON-INDUCIBLE PROTEIN IP-30) [H.sapiens]	648.5	2588.9	2.9	3.99214
J00692				72	SEQUENCE WITHDRAWN FROM DATABASES	260.3	781.3	2.9	3.00154
M21622	P12840	P12319	X06948	48	Fc fragment of Igε, high affinity I, receptor for, alpha polypeptide	8077	23423.9	2.9	2.90007
U83895	AAB41443	NP_004753	NM_004762	98	sec7A	344.1	745.1	2.9	2.16536
X52820	CAA37003	NP_000406	NM_000415	65	islet amyloid polypeptide	108.9	719	2.9	6.60239
X89963	CAA62002	NP_003239	NM_003248	83	thrombospondin-4	195.6	725.6	2.9	3.70961
U62658	AAD41533	NP_002074	NM_002083	94	glutathione peroxidase	934.6	2705.8	2.9	2.89514
AA891220					EST (not recognized)	784.3	2206.4	2.8	2.81321
AA892271					EST (mouse chromosome)	20	684.8	2.8	34.24
AF032120	AAC69268	NP_005707	NM_005716	84	Regulator of G-protein signaling 19	165.4	515.1	2.8	3.11427
NM_019192	NP_062065	CAA77836	Z11793	62	selenoprotein P, plasma, 1	753.8	831.5	2.8	1.10308
M27886	AAA58780	XP_013061	XM_013061	90	6-phosphofructo-2-kinase/fructose-2, 6-bisphosphatase	1982.9	5498.6	2.8	2.77301
M82826	AAA41691	XP_050121	XM_050121		Rattus leucopus neurofibromatosis protein type I (NF1, type III splice variant) mRNA, 3' end	386.1	762.5	2.8	1.97488
S80118	AAB47049	XP_008479	XM_008479	99	nude	148.3	646.1	2.8	4.35671
U04740	AAA18422	NP_000943	NM_000952	72	platelet-activating factor receptor	726.7	2013.2	2.8	2.77033
U48958	AAA92921	XP_030326	XM_030326	78	CD44i	347.1	966.3	2.8	2.78392
X00975	P04466	AAA91848	M21812	74	Myosin, light polypeptide 2, alkali; ventricular, skeletal, slow	161.3	1027.2	2.8	6.36826
X15467	CAA33494	NP_000804	NM_000813	99	GABA(A) receptor beta-2 preprotein	4708.3	13325.4	2.8	2.83019
NM_017158	NP_058854	NP_000760	NM_000769	94	cytochrome P450, 2c39 (Cyp2c39),	203	760.1	2.8	3.74433
				72		412.8	819.4	2.7	1.98498

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

NM_017073	NP_058769	XP_046468	XM_046468	92	glutamine synthetase (glutamate-ammonia ligase)	AA852004	1666.4	4479.7	2.7	2.68825
NM_012520	NP_036652	NP_001743	NM_001752	88	Catalase	AA926149	114.6	766	2.7	6.68412
AA945054	1AQA	1803548A	XM_008817	88	Cytochrome b5		1396.8	3803	2.7	2.72265
A1070295	S68690	P24522	L24498	92	DNA-damage-inducible transcript 1		35.7	509.5	2.7	14.2717
H31665					Mus musculus adult male stomach cDNA, RIKEN					
L17318	B48013	P24928		36	Proline-rich proteoglycan (PRPG2)		232.4	707.7	2.7	3.04518
M82855	AAA41059	NP_000763	NM_000772	64	cytochrome P-450 IIC13		236.9	688.2	2.7	2.90502
U23056	S71107	P31997	X52378	51	Carcinoma embryonic antigen-related cell adhesion molecule		91.5	580.8	2.7	6.34754
U82612	AAB40865	CAA26536	X02761	91	fibronectin		267.8	727.6	2.7	2.71695
AF038388	AAC27698	NP_004454	NM_004463	54	actin-filament binding protein Frabin		70.2	542.3	2.7	7.72507
AF074482	AAD03335	AAD45867	AF099033	96	GABA-B receptor 2 (GABA-BR2)		20	1046.5	2.6	52.325
M15202	AAA96446		no human		troponin T class proteins	AI136540	20	1947.7	2.6	97.385
AI639410					Mus musculus adult male lung cDNA, RIKEN		7250.8	18746.9	2.6	2.58549
D25233	BAA04958	NP_000312	NM_000321	89	retinoblastoma 1		271.2	706.4	2.6	2.60472
NM_020075	NP_064460	NP_001960	NM_001969	80	eukaryotic initiation factor 5 (eIF-5) (Eif5),	K01677	252.4	694.4	2.6	2.75119
L09656	AAA42115	NP_003196	NM_003205	83	Rat salivary-specific cAMP response element-binding protein alpha		603.6	1124.2	2.6	1.86249
U09870	AAC52161	XP_008068	XM_008068	86	major vault protein		492.7	1281.7	2.6	2.60138
U68168	AAC53206	NP_003928	NM_003937	82	L-kynurenine hydrolase		292	1623.6	2.6	5.56027
X59993	Q63679	g3882205	AB018285	91	Putative zinc finger protein		56.1	549.5	2.6	9.79501
X78855	CAA55411	CAA66977	X98332	74	organic cation transporter		133	1015.7	2.6	7.63684
NM_011129	NP_035259	NP_004565	NM_004574	88	septin 4 (Sept4),	AA800004	321.7	1328.8	2.6	4.13056
AA892362					EST(not recognised)		504.2	1298.7	2.5	2.57576
AA893014					EST(not recognised)		594	1478.9	2.5	2.48973
NM_019143	NP_062016	AAA52462	M10905	85	Fibronectin 1 (Fn1)	AA955600	389.6	959.9	2.5	2.46381
AF035963	AAC53546	NP_036338	NM_012206	54	kidney injury molecule-1		692	1754.9	2.5	2.53598
NM_031137	NP_112399	AAA63263	M55169	89	tripeptidylpeptidase II	AI069990	273.2	683.6	2.5	2.5022
X16957	CAA34831	NP_000090	NM_000099				217.3	833.7	2.5	3.83663
AI638984				72	cysteine proteinase inhibitor cystatin C	AI231292	47717.7	118296.9	2.5	2.4791
NM_008891	NP_032917	AAG33941	AF195139	65	EST(not recognised)		255	828.7	2.5	3.2498
AI639438					pinin (Pnn	AI639151	133	550.1	2.5	4.13609
AJ293948	CAC08185	AAG52886	AF333387	93	EST(not recognised)		36.4	771.9	2.5	21.206
					Kelch related protein 1 (krp1 gene)	AI639444	221.6	558.2	2.5	2.51895

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D00569	Q64591	Q16698	L26050		Rattus norvegicus mRNA for 2,4-dienoyl CoA reductase precursor, complete cds				
D12978	BAA02355	NP_002688	NM_002697	81	octamer binding protein	238.8	591	2.5	2.47487
D38101	BAA07282	CAA84341	Z34810	83	L-type voltage-dependent calcium channel alpha 1 subunit	20	768	2.5	38.4
D84477	BAA20863	NP_001655	NM_001664	68	RhoA	246	665.9	2.5	2.70691
L18948	AAA18214	NP_002956	NM_002965	100	intracellular calcium-binding protein	1445.5	4100.7	2.5	2.83687
L19112	g310149	Q01742	X56191	64	Rat (clone R2(A3B)) heparin-binding fibroblast growth factor receptor 2 (extracellular domain) mRNA, partial cds	1509.3	3820.6	2.5	2.53137
M60753	AAA40881	XP_033799	XM_033799	90	catechol-O-methyltransferase	303	762.5	2.5	2.5165
M83210	AAC12783		no human	81	neonatal submandibular gland proacinar cell protein	258.6	656.7	2.5	2.53944
U50948	AAC52910	NP_006628	NM_006637	52	taste bud receptor protein TB 567.	250.5	709.7	2.5	2.83313
X06150	P13255	S42627	X62250	92	Glycine methyltransferase	485.2	886.8	2.5	1.90628
X63744	CAA45276	NP_004163	NM_004172	87	glutamate/aspartate transporter	280.1	1596.5	2.5	5.69975
Z56277	CAA91216	NP_001820	NM_001829	68	CLC-5 chloride channel protein	141.9	567.9	2.5	4.00211
AF166267	AAG15432	AAH08881	BC008881	50	kinesin	121	633.4	2.5	5.23471
U44803	AAC52623	NP_057455	NM_016371	81	ovarian-specific protein	134.7	834.5	2.4	6.19525
AA892228		NP_006251	NM_006260		Protein-Kinase, interferon-inducible double stranded RNA dependent inhibitor	338.5	808.1	2.4	2.3873
AA963682	P97570	A55575	U13616	86	Rattus norvegicus 190 kDa ankryrin isoform mRNA, complete cds	412.5	977.9	2.4	2.37067
AF034899	JC5836	Q15062	L35475	94	Olfactory receptor-like protein (SCR D-9)	20	513.2	2.4	25.66
AI102562	SMRT1	SMHU1E	M10943	44	Metallothionein-1 (mt-1)	666.8	1584.2	2.4	2.37582
AI104389	1TOH	I55282	M20912	86	Tyrosine hydroxylase	1117	2695.1	2.4	2.4128
NM_017235	NP_058931	NP_057455	NM_016371	88	hydroxysteroid 17-beta dehydrogenase 7 (Hsd17b7).	388.7	661.8	2.4	1.7026
AI639267				81	EST(not recognised)	494.7	946.2	2.4	1.91267
AI639362					EST(not recognised)	349.4	1108.5	2.4	3.17258
D28512	BAA05870	NP_115674	NM_032298	71	Synaptotagmin III	470.9	1134.8	2.4	2.40985
D38492	BAA07504	XP_038719	XM_038719	95	neural adhesion molecule F3	3468.3	8233	2.4	2.37379
S74265	AAB32559	XP_030840	XM_030840	78	HMMV MAP2	2281.2	2501.2	2.4	1.09644
S75997	AAB33384	NP_057637	NM_016553	74	Nucleoporin p62 homolog	191.5	567.2	2.4	2.96188
U33314	AAC52268	NP_002569	NM_002578	95	serine/threonine kinase beta-PAK	201.4	566.5	2.4	2.81281
U65486	AAB19102	NP_002434	NM_002443	45	beta-microseminoprotein	126.1	816.8	2.4	6.4774
						211.8	591.8	2.4	2.79415

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AA799636							EST(not recognised)		234.4	829.2		2.3	3.53754
AA800202							EST(not recognised)		254.1	587.8		2.3	2.31326
AA874803						89	ESTs, Moderately similar to 0806162L protein URF5 [M.musculus]	NC_001807					
AA892280							EST(not recognised)		255.7	891.7		2.3	3.48729
AA893733	S40148	A34269	J02764						305.2	704.1		2.3	2.30701
AA943677						80	ESTs, Weakly similar to S40148 integrin alpha-7A chain - rat [R.norvegicus]		3197.1	13625.9		2.3	4.26196
AI176191	g1763306	g2432000	AF020202			74	Munc13-3		111	754.3		2.3	6.7955
AI231354	P49186	P45984	L31951				EST(not recognised)		144.9	837		2.3	5.7764
AI639512						98	Stress activated protein kinase alpha II		521.6	1192.5		2.3	2.28623
D28581	BAA05917	NP_000950	NM_000959			83	EST(not recognised)		165	580.5		2.3	3.51818
L10073	AAA40616	NP_076917	NM_024012			69	prostaglandin F2-alpha receptor		263.8	531.9		2.3	2.0163
M20724	AAA41953		no human				5-hydroxytryptamine receptor		383.8	881.3		2.3	2.29625
M35965	AAA42089	NP_003226	NM_003235			85	proline-rich protein		237.9	736.2		2.3	3.09458
M62891	AAA41710	NP_002249	NM_002258			44	thyroglobulin (Tg-2).		367.1	840.9		2.3	2.29066
S83320	AAB50733	NP_068771	NM_021952				3.2.3 antigen protein		374.1	866.7		2.3	2.31676
S85184	AAB21516	NP_001903	NM_001912			91	HuD=neurospecific RNA binding protein		1104.3	2500.6		2.3	2.26442
U66471	AAC52951	NP_006559	NM_006568			75	Cyclic Protein-2 (CP-2) mRNA, partial cds		722.4	2050.4		2.3	2.83832
X71127	CAA50440	XP_010666	XM_010666			84	Rattus norvegicus cell growth regulator rCGR19 mRNA, complete cds		233.1	733.8		2.3	3.14801
Z22867	CAA80489	NP_000913	NM_000922			60	complement protein C1q beta chain		1114.9	2529.4		2.3	2.26872
AA859911	Q11205	JC5251	U63090			68	3',5'-cyclic AMP phosphodiesterase		201.4	624.8		2.3	3.10228
AA875348						93	Sialyltransferase 5		433.5	940.8		2.2	2.17024
AA891725							EST(not recognised)		501.5	1085.5		2.2	2.16451
AA893160							Mus musculus 13 days embryo head cDNA, RIKEN		415.4	904.4		2.2	2.17718
AA894340							EST(not recognised)		458.2	1027.3		2.2	2.24203
U61261	AAB17053	XP_008772	XM_008772			77	EST(not recognised)		299.1	654		2.2	2.18656
D21132	BAA04669	NP_036531	NM_012399			98	laminin-5 alpha 3 chain	AA946108	235.6	516		2.2	2.19015
AB010428	BAA32434	XP_040337	XM_040337			70	phosphatidylinositol transfer protein	AA998446	246.3	533.6		2.2	2.16646
AF078779	AAC68885	CAC40696	AL138707				acyl-CoA hydrolase		544.3	1812		2.2	3.32905
M23572	AAB08828	NP_061821	NM_018948			89	Rattus norvegicus putative four repeat ion channel mRNA, complete cds		409	886.3		2.2	2.16699
						74	gene 33	AI169756	819.3	2427.6		2.2	2.96302

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J03753	AA073898	NP_001673	NM_001682	91	plasma membrane Ca ²⁺ ATPase	AI172499	217.4	505.2	2.2	2.32383
AI231445	P18395	BAA74908	AB020692	98	Rat unr mRNA for unr protein with unknown function	AI639196	579.2	1297.3	2.2	2.23981
NM_023957	NP_076447	NP_056000	NM_015185	98	collybistin I		482.4	1076	2.2	2.23051
AI639305					Mus musculus adult male testis cDNA, RIKEN		610.8	1956.8	2.2	3.20367
D00913	BAA00759	NP_000192	NM_000201	50	Intercellular adhesion molecule-1		20	1434.4	2.2	71.72
D14015	BAA03116	P24864	M73812	76	Cyclin E		20	2201.9	2.2	110.095
D63673	BAA09824	NP_000278	NM_000287	75	peroxisome assembly factor-2		736.5	1822.5	2.2	2.47454
L39991	AAC42054	BAB18537	AB040538	78	nucleoporin		361.7	787.4	2.2	2.17694
S81353	AAB36042	NP_002769	NM_002778	64	sulfated glycoprotein-1; SGP-1; prosaposin		22254	48442.1	2.2	2.17678
U19516	Q64350	Q13144	U23028	88	Rattus norvegicus initiation factor eIF-2Be mRNA, complete cds		20	533.3	2.2	26.665
U30186	AAA73629	XP_048609	XM_048609	65	GADD153		465.6	1013.3	2.2	2.17633
U51584	AAB17131	NP_110378	NM_030751	81	zinc finger homeodomain enhancer-binding protein-2		20	529.8	2.2	26.49
U92072	AAD04756	XP_045911	XM_045911	67	Tomosyn		509	1102	2.2	2.16503
X05472					Genomic 2.4 kb repeat DNA right terminal containing two ORFs		1069.5	2321.5	2.2	2.17064
X59859	CAA442519	NP_001911	NM_001920	74	decorin	AI639233	390.6	874	2.2	2.23758
X66022	S26731	Q92782	U43843	87	Neuro-d4		334.3	742.8	2.2	2.22196
NM_009266	NP_033292	NP_036380	NM_012248	78	selenophosphate synthetase 2	AA799700	371.5	768.5	2.1	2.06864
AA891438					Mus musculus adult male testis cDNA, RIKEN		535.1	1123.1	2.1	2.09886
AA892240					EST(not recognised)		2041.2	1316.8	2.1	0.64511
NM_031137	NP_112399	AAA63263	M55169	89	tripeptidyl peptidase II	AI071507	280	592.8	2.1	2.11714
NM_012678	NP_036810	NP_003281	NM_003290	60	Tropomycin 4 (Tpm4),	AI105374	144.9	1098.4	2.1	7.5804
D49708	BAA08556	AAD19278	AF057159	75	RNA binding protein (transformer-2-like)	AI231164	899	1854.3	2.1	2.06263
AF016049	AAC27975	NP_000421	NM_000430	99	platelet-activating factor acetylhydrolase beta subunit	AI234730	286.4	697.3	2.1	2.43471
AI638973					EST(not recognised)		48.4	728	2.1	15.0413
AI639136					EST(not recognised)		238.2	541	2.1	2.2712
AI639142					EST(not recognised)		335.1	687.6	2.1	2.05192
AI639195					EST(not recognised)		475.7	984.7	2.1	2.07
AF148797	AAD31539	AAA93514	L36531	77	alpha 8 integrin	AI639291	338.9	1182.5	2.1	3.48923
D10770	BAA01601	NP_002722	NM_002731	96	Rat mRNA for beta isoform of catalytic subunit of cAMP-dependent protein kinase		240.5	532.8	2.1	2.21538

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

D79215	BAA11468	NP_004456	NM_004465	86	FGF-10		281	580.1	2.1	2.06441
D86373	BAA25372	XP_031118	XM_031118	85	acyl-coenzyme A:cholesterol acyltransferase (ACACT)	L42293	166.4	640.2	2.1	3.84736
L08493	AAC42032	NP_000800	NM_000809	79	complete cds		272.9	615.6	2.1	2.25577
L25866	AAA40768	AAA59978	M36718	66	octamer-binding transcription factor		381.4	791.9	2.1	2.0763
M64092	AAA41879	NP_115860	NM_032471	33	protein kinase inhibitor		371.8	785.1	2.1	2.11162
M80784	AAA42236	NP_003234	NM_003243	79	type III TGF-beta receptor		380.7	805	2.1	2.11453
U01344	P50297	g2245376	U80835	76	A-2 arylamine N-acetyltransferase		712.3	835.4	2.1	1.17282
U37462	AAC52320	XP_038238	XM_038238	98	MEK5alpha-1.		785.6	1637.9	2.1	2.0849
U93306	AAB97508	AAB88005	AF035121	83	VEGF receptor-2/FLK-1		335.8	570.6	2.1	1.69923
X57970	CAA41036	XP_051651	XM_051651	65	connexin 46		440	942.7	2.1	2.1425
NC_001665					mitochondrial genome	AA799594	242.6	528.8	2	2.17972
AA799600	P43035	S36113	L13388		ESTs, Weakly similar to PLATELET-ACTIVATING FACTOR					
AA799686				33	ACETYLHYDROLASE IB ALPHA SUBUNIT [R.norvegicus]		302.5	592.3	2	1.95802
NM_020616	NP_065641	NP_065693	NM_020642	70	EST(not recognised)		149.6	766.5	2	5.12366
AA800186					Mus musculus predicted gene					
AA875362					ICRFP703B1614Q5.6	AA799992	286.1	569.4	2	1.99021
NM_022548	NP_071993	NP_071915	NM_022470	87	EST (not recognized)		394	791.4	2	2.00863
AF262320	AAK58519	XP_029519	XM_029519	88	p53-activated gene 608	AA875455	893.9	834.4	2	0.93344
AA891759					apoptosis-inducing factor	AA891591	589	1202.8	2	2.04211
AA893307					Mus musculus 8 days embryo cDNA,		105.7	1616.6	2	15.2942
AF016048	AAC27974	NP_002563	NM_002572	99	RIKEN		384.9	778.9	2	2.02364
AB004831	BAA25652	AAB24822	S52229	63	EST(not recognised)		311.6	961	2	3.08408
AB011666	BAA25724	NP_009055	NM_007124	96	platelet-activating factor acetylhydrolase alpha 2 subunit	AA899935	411.3	840.6	2	2.04376
AF052596	AAC06031	XP_031741	XM_031741	87	B29/Ig-beta/CD79b		816.4	1595.6	2	1.95443
AI070295	S68690	P24522	L24498	92	utrophin		700.2	1407.7	2	2.01043
D13211	BAA02498	NP_000824	NM_000833	94	SNAP-23		618.2	1210.4	2	1.95794
D37884	BAA07126	NP_001268	NM_001277	47	DNA-damage-inducible transcript 1		600.5	1021.2	2	1.70058
D50558	BAA23470	XP_032680	XM_032680	56	N-methyl-D-aspartate receptor subunit		138.1	546.3	2	3.95583
NM_017017	NP_058713	XP_052255	XM_052255	87	choline kinase R		411.9	817.3	2	1.98422
					Membrane glycoprotein		245.1	530.5	2	2.16442
					hepatocyte growth factor (scatter factor)	E03190	602.7	501.8	2	0.83259

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

J02679	AAA41715	NP_000894	NM_000903	82	NAD(P)H:menadione oxidoreductase		2930	5955.3		2	2.03253
J04187	A31887	Q16696	U22028	67	Cytochrome P450 IIA2 (see 257 on this sheet)		158.3	839.1		2	5.30069
K02423	AAA98533	XP_030823	XM_030823	85	myosin light chain		4891.2	9714.9		2	1.9862
L01624	AAA42137	XP_037046	XM_037046	91	serine/threonine protein kinase		1052.3	2115.2		2	2.01007
L32601	P51652	P42330	D17793	71	(20-alpha-hydroxysteroid dehydrogenase (20-alpha-HSD))		584.9	1476.6		2	2.52453
M18853	AAA42207	AAA60627	M15565	55	T-cell receptor alpha-chain C-region precursor	L37966	835.9	1125.8		2	1.34681
M27151	AAA41636	NP_002460	NM_002469	79	muscle regulatory factor MRF4.		328.3	669.7		2	2.0399
M77694	AAA41142	NP_000128	NM_000137	86	fumarylacetoacetate hydrolase (FAH)		371.5	759.4		2	2.04415
M84719	P36365	Q01740	M64082	82	Flavin-containing monooxygenase 1		463.5	924.2		2	1.99396
S76742	AAB32806	NP_064593	NM_020208	84	neurotransmitter transporter rB21a		825.6	1677.3		2	2.03161
U04835	1921368A	XP_005813	XM_005813	100	cAMP responsive element modulator		248.7	673.7		2	2.70889
U28938	T14328	S60613	Z48541	89	Receptor-type protein tyrosine phosphatase D30		259	822.5		2	3.17568
U96921	AAB72152	NP_003857	NM_003866	85	inositol polyphosphate 4-phosphatase type II-beta		393.1	800.7		2	2.03689
X73371	Q63203	g29428	X52473	54	Fc gamma receptor		218.1	607.4		2	2.78496
X16957	CAA34831	NP_000090	NM_000099	72	cysteine proteinase inhibitor cystatin C metallothionein	A1231292 A1176456	33265.6 3073.2	65579.4 6117.4		2 2	1.97139 1.99056
M11794	AAA41640		No Human		EST(not recognised)		372	698.5		1.9	1.87769
AA686870		NP_004306	NM_004315	79	N-acylsphingosine amidohydrolase; acid ceramidase	AA800062	1569.8	1962.8		1.9	1.25035
NM_019734	NP_062708				EST(not recognised)		366.8	691.8		1.9	1.88604
AA866299		XP_035810	XM_035810	91	ESTs, Weakly similar to T25404 hypothetical protein T28C6.1		950.9	1764.5		1.9	1.85561
AA874990		XP_011165	XM_011165	97	[C.elegans] histone H3	AA875069	1432.5	2670		1.9	1.86387
X73683	CAA52035	NP_060065	NM_017595	90n	I-kappa-B-interacting Ras-like protein 2		1096.2	2106.1		1.9	1.92127
AA875090					Mus musculus 10 days embryo cDNA, RIKEN		586.8	1103.7		1.9	1.88088
AA875615					EST(not recognised)		457.9	841.1		1.9	1.83686
AA891255					Mus musculus adult male corpus striatum cDNA, RIKEN		469	905.9		1.9	1.93156
AA891476					EST(not recognised)		201.8	1523.4		1.9	7.54906
AA892149					EST(not recognised)		399.4	768.1		1.9	1.92313
AA892754					EST(not recognised)						

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

AA892779	AAA41838	NP_000282	NM_000291	97	EST (not recognized)	AA892797	331.6	644.4	1.9	1.94331
M31788					phosphoglycerate kinase		6621.7	12391.7	1.9	1.87138
AA893000					Human DNA sequence from clone RP11-125A7					
AA893592	Q62703	Q15293	D42073		ESTs, Weakly similar to RETICULOCALBIN 2 PRECURSOR [R.norvegicus]		684.9	1303.7	1.9	1.90349
AA893970				94	Homo sapiens cDNA FLJ14265 fis, clone PLACE1002256		383.4	794.6	1.9	2.07251
AB015042	BAA28746	NP_004386	NM_004395	64	drebrin		443	862.2	1.9	1.94628
AF031430	AAC17131	XP_004526	XM_004526	84	Syntaxin 7		1202.5	2335.5	1.9	1.9422
AF048828	AAD02476	MMHUP3	L06132	93	Voltage-dependent anion channel 1		740.3	1382.4	1.9	1.86735
AF077354	Q63617	P34932	AB023420	95	Ischemia responsive 94 kDa protein (irp94)		1267.4	2429.8	1.9	1.91715
AF091573	AAC64594	NP_003544	NM_003553	66	HGL-SL2 olfactory receptor		685.6	1101	1.9	1.60589
AF092450	AAC62110	NP_005447	NM_005456	80n	Rattus norvegicus JIP-1b mRNA, complete cds		807.7	1517.3	1.9	1.87854
NC_001665					mitochondrial genome	AI010632	1684.1	3277.8	1.9	1.94632
AI045558	JE0155	XP_049282	XM_049282	90	Translocator of inner mitochondrial membrane 44		50654.7	101748	1.9	2.00866
U31866					Nclone10	AI071866	1037.4	1944.4	1.9	1.8743
AI231778					Mus musculus adult male liver cDNA, RIKEN		481.4	1243	1.9	2.58205
X80899	CAA56861	XP_002700	XM_002700		cytochrome C oxidase subunit VII homologue	AI232307	431.1	813.8	1.9	1.88773
M12894	AAA41289		No Human	88	putative glutathione S-transferase Ya subunit		3738.1	7251.9	1.9	1.94
AI638988					EST(not recognised)	AI235747	1201.7	1818.2	1.9	1.51302
AI639105					Mus musculus adult male urinary bladder cDNA, RIKEN		1392.2	2617.2	1.9	1.8799
AI639345					EST (not recognised)		377.7	1111.1	1.9	2.94175
AI639477					EST(not recognised)		1498.5	2879.1	1.9	1.92132
AJ006710	CAA07199	NP_002638	NM_002647	88	phosphatidylinositol 3-kinase		317	1864.1	1.9	5.88044
D16309	BAA03816	NP_001751	NM_001760	80	Cyclin D3		636.7	1867.2	1.9	2.93262
D83538	BAA19614	P42356	L36151	98	Phosphatidylinositol 4-kinase		1650.2	3117.2	1.9	1.88898
J04943	AAA40794	AAH12566	BC012566	78	nucleolar protein B23.2		294	555.6	1.9	1.8898
J05132	AAA42315	AAG30420	AF297093		truncated UDP-glucuronosyltransferase		724.3	1395.4	1.9	1.92655
L11587	AAC37656	XP_016527	XM_016527	78	Rat leukocyte common antigen-related phosphatase (LAR-PTP2)		778.4	1443.6	1.9	1.85457
				65			847.2	2168.9	1.9	2.56008

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L15619	P13862	P13862	X16937	100	Casein kinase II beta subunit	378	726.9	1.9	1.92302
L16764	AAA17441	AAA52697	M11717	87	Heat shock protein 70-1	638.3	1244.3	1.9	1.9494
L22190	AAA19818	NP_000322	NM_000331	70	amyloid A	387.2	717.7	1.9	1.85356
L47281	AAB72238	NP_000082	NM_000091						
M31837	AAA41383	XP_038124	XM_038124	91	Rattus norvegicus alpha-3 type IV collagen (COL4A3) mRNA, partial cds	484.8	1386.2	1.9	2.85932
M34134	P18342	P09493	M19713	76	insulin-like growth factor binding protein	287.3	867.9	1.9	3.02088
M55532	AAA40892	NP_056532	NM_015717	94	Tropomyosin 1 (alpha)	27548.1	45330.1	1.9	1.64549
U07971	AAA21250	NP_001473	NM_001482	37	carbohydrate-binding receptor	344.7	642.1	1.9	1.86278
U09815	AAA56870	NP_001703	NM_001712	90	L-arginine:glycine amidinotransferase	429.6	835.3	1.9	1.94437
U34932	AAA79137	NP_079092	NM_024816	31	pregnancy-specific glycoprotein	501.4	977.3	1.9	1.94914
U40001	AAC52771	XP_008882	XM_008882	76	Fos-related antigen	2030.1	3766.4	1.9	1.85528
U49099	AAC52597	AAD12945	AF073926	65	hormone-sensitive lipase testicular isoform	1327.1	5232.6	1.9	3.94288
U52104	AAB03282	NP_001378	NM_001387	98	Golgi SNAP receptor complex member 1	2429.5	4625.6	1.9	1.90393
U64689	AAB40631	AAB40661	U69140	94	rCRMP-4	287.8	556.2	1.9	1.93259
U89744	g1890275	P24928	X63564	84	Rattus norvegicus zygion-related protein type II (Zrp2) mRNA, partial cds	386.5	750.5	1.9	1.94179
U94708	AAB53325	XP_007322	XM_007322	30	Rat putative cell surface antigen	631	1183.6	1.9	1.87575
X55446	CAA39087	NP_000760	NM_000769	59	EP2 prostanoid receptor	668.5	855.7	1.9	1.28003
X62839	CAA44643	CAC19684	AL137790	58	Rat mRNA for cytochrome P-450 (CYP2C23)	364.4	689.1	1.9	1.89105
X65083	P80299	P34913	L05779	54	Voltage-gated potassium channel	397.9	747	1.9	1.87736
X89703	CAA61850	CAA61822	X89675	78	Cytosolic epoxide hydrolase	512.5	979	1.9	1.91024
X96488	CAA65342	XP_010067	XM_010067	46	TPCR19 protein	872	1620.7	1.9	1.8586
Z13993	CAA78384	NP_001891	NM_001900	93	SAP kinase-3	833.9	1577.4	1.9	1.89159
Z14118	CAA78488	NP_006197	NM_006206	31	prostatic 22kDa glycoprotein	32.6	621.5	1.9	19.0644
Z36276	Q64595	JE0103	Y16105	81	platelet-derived growth factor receptor alpha, extracellular domain	85.7	750.6	1.9	8.75846
AA799711	S12207		No Human	96	cGMP dependent protein kinase type II ESTs, Moderately similar to S12207 hypothetical protein [M.musculus]	515.1	992.9	1.9	1.92759
AA799991					EST(not recognised)	453.1	563.7	1.8	1.2441
AA800216					Mus musculus 18 days embryo cDNA, RIKEN	375.3	823.4	1.8	2.19398
						71.4	1266.8	1.8	17.7423

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

NM_031971	NP_114177	AAA52697	IM11717	87	Heat shock protein 70-1 (Hspa1a), hermes	AA818604	184.1	754.7	1.8	4.0994
AF148511	AAD39515	NP_006858	NM_006867	84	Human chromosome 14 DNA sequence BAC R-299L17	AA859519	1349.6	1979.8	1.8	1.46695
AA859897					Mus musculus, clone MGC:7182 IMAGE:3481673		709.4	2402.9	1.8	3.38723
AA874873					ESTs, Weakly similar to SMC-protein [R.norvegicus]		1172	2059.2	1.8	1.757
AA874887	CAA06377	BAA73535	AB019987	100	EST(not recognised)		395	699.2	1.8	1.77013
AA891931					EST (not recognised)		489.2	1218.4	1.8	2.4906
AA891943					EST (not recognised)		1283.2	2298.7	1.8	1.79138
NM_020558	NP_065583	NP_006324	NM_006333	90	nuclear DNA-binding protein (C1d-pending).	AA891969	522.9	606.1	1.8	1.15911
AA892299					EST(not recognised)		838.3	1487.3	1.8	1.77419
NM_022521	NP_071966	NP_000265	NM_000274	87	ornithine aminotransferase	AA893325	1885.3	3340.9	1.8	1.77208
AA893495	P31211	A28321	J02943		ESTs, Highly similar to CORTICOSTEROID-BINDING GLOBULIN PRECURSOR					
				56	[R.norvegicus]		59.9	847.6	1.8	14.1503
AA893662					EST(not recognised)		603.2	786.3	1.8	1.30355
AA894148					Mixed cDNA - Apolipoprotein A-IV / 28S ribosomal RNA		14609.1	26204.2	1.8	1.79369
X68394	CAA48460	NP_002515	NM_002524	94	N-ras gene for p21	AA943331	417.6	1018.9	1.8	2.43989
AB012933	O88813	JX0202	D10040	62	Acyl-CoA synthetase 5		1046.4	1200.6	1.8	1.14736
AF015953	AAC21449	XP_031166	XM_031166	89	TIC		212.1	957.8	1.8	4.51579
AF023657	AAB86925	NP_078917	NM_024641	88	endo-alpha-D-mannosidase (Enman)		371.5	684.4	1.8	1.84226
NM_021754	NP_068522	NP_057018	NM_015934	92	Nopp140 associated protein	AF069782	1094.9	2013.2	1.8	1.83871
AF075382	AAC26222	NP_003868	NM_003877	87	suppressor of cytokine signaling-2		356.9	872.4	1.8	2.44438
AF100470	AAC72398	NP_055260	NM_014445		ribosome attached membrane protein 4		1014	1791	1.8	1.76627
AF106563	AAC83936	NP_005680	NM_005689	100	Rattus norvegicus mRNA for ABC transporter		525.3	944.4	1.8	1.79783
NM_017278	NP_058974	NP_002777	NM_002786	78	proteasome	A1009111	659.4	1195.6	1.8	1.81316
A1009268	P15791	Q13557	AF071569	97	Ca++/calmodulin-dependent protein kinase II, delta subunit		415.1	607.8	1.8	1.46423
A1044716	P47971	Q15818	U61849	92	Rattus norvegicus neuronal pentraxin precursor mRNA, complete cds		946.6	1428.4	1.8	1.50898
NM_017279	NP_058975	NP_002777	NM_002786	95	proteasome	A1170403	1724	3184.4	1.8	1.8471
A1639026				97	EST(not recognised)		764.7	559.8	1.8	0.73205
U91922	AAC05725	NP_001348	NM_001357	83	RNA helicase A (Ddx9)	A1639188	825.6	1484.8	1.8	1.79845

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X59859	CAA442519	NP_001911	NM_001920	74	decorin	A1639233	3531.9	6351.8	1.8	1.79841
AJ000347	CAA04022	NP_006076	NM_006085	91	3'(2'),5'-bisphosphate nucleotidase		422.1	1387.2	1.8	3.28643
AJ007632	CAA07591	XP_008403	XM_008403	61	ELK channel 3 (Potassium channel)		1821.8	3265.1	1.8	1.79224
D13907	S36390	O75439	AF054182	88	Mitochondrial processing peptidase beta		586.6	1034.7	1.8	1.76389
D26178	BAA05166	NP_055735	NM_014920	79	serine/threonine protein kinase		681.8	1196.2	1.8	1.75447
D28560	BAA05910	NP_006200	NM_006209	88	phosphodiesterase I		568.2	1263.9	1.8	2.22439
D49708	BAA08556	AAC28242	U61267		Rattus norvegicus mRNA for RNA binding protein (transformer-2-like), complete cds	A1231164	1149.2	2067.3	1.8	1.7989
D90048	BAA14101	NP_001669	NM_001678	100	Na ⁺ , K ⁺ -ATPase beta2 subunit		1646	3020.2	1.8	1.83487
E00898		CAA52817	X74818	86	Cancer specific cDNA	E00898	1061.9	2717.4	1.8	2.559
J02827	AAA40811	NP_000700	NM_000709	86	branched chain alpha-ketoacid dehydrogenase		580.2	2199.2	1.8	3.79042
K01932	AAA441294	NP_000838	NM_000847	75	glutathione S-transferase Yc subunit		1863	3378.2	1.8	1.81331
L05435	AAA442188	NP_055664	NM_014849	84	synaptic vesicle protein (SV2)		1180.9	1858.9	1.8	1.57414
L08495	AAC42034	NP_000802	NM_000811	86	GABA-A receptor alpha-6 subunit		537.9	1444.3	1.8	2.68507
L24207	AAA441023	NP_000767	NM_000776	68	Testosterone 6-beta-hydroxylase (CYP3A1)		610.9	798.6	1.8	1.30725
M11670	AAA40884	NP_001743	NM_001752	88	catalase		1087.6	1766.7	1.8	1.6244
M27433	AAA60735	CAA43011	X60481	100	histone H4.		744.8	935.4	1.8	1.25591
M27440	AAA74690	NP_000375	NM_000384	53	apolipoprotein B.		673.4	1191.9	1.8	1.76997
NM_012632	NP_036764	XP_012244	XM_012244	94	Proline-rich protein, salivary	M83567	539.8	1237.3	1.8	2.29215
M96375	B40228	NP_004792	NM_004801	76	Non-processed neurexin I-beta		1697.9	3085.1	1.8	1.81701
S39221	AAB22435	NP_067544	NM_021569	96	NMDA receptor		1071.7	1897.9	1.8	1.77092
S58528	AAB26277	NP_002201	NM_002210	91	Integrin, alpha V		881.5	867.2	1.8	0.98378
S76758		BAB55545	AB038670	95n	BDNF=brain-derived neurotrophic factor {alternatively spliced}		1502.8	2742.7	1.8	1.82506
S79304	AAB21298		No Human		Rattus sp. cytochrome oxidase subunit I mRNA, partial cds; and tRNA-Ser gene, complete sequence; mitochondrial genes for mitochondrial products		40182.4	71690.7	1.8	1.78413
U10697	AAA64638	NP_036254	NM_012122	70	kidney microsomal carboxylesterase		431.5	1466.2	1.8	3.39791
U12568	AAA50861	NP_004302	NM_004311	89	ADP-ribosylation factor-like protein 3		735.9	1308	1.8	1.77742
U17837	AAA74468	NP_036363	NM_012231	67	zinc finger protein RIZ		533.8	942.2	1.8	1.76508
U27518	g1177818	g3287473	U59209	62	UDP-glucuronosyltransferase		510	909	1.8	1.78235
U32498	AAC52265	NP_068579	NM_021807	94	rsec8		295	1475.8	1.8	5.00271

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

U40628	S70009	AAC34993	AF043244	81	Unknown Glu-Pro dipeptide repeat protein	86.8	896.2	1.8	10.3249
U49953	AAB61533	XP_034970	XM_034970	92	protein kinase MUK2	20	651.5	1.8	32.575
U50353	AAC99551	NP_066290	NM_021010	35	defensin 3a (RatNP-3a)	3548.3	6373.5	1.8	1.79621
U50717	AAC52643	XP_012060	XM_012060	88	Synaptic density protein PSD-93 mRNA, partial cds	470.9	847.2	1.8	1.79911
U56862	Q62981	Q15072	X70394	80	Pancreas zinc finger protein	362.6	667	1.8	1.83949
U73142	AAC71059	XP_043351	XM_043351	94	p38 mitogen activated protein kinase	1560.6	4054.8	1.8	2.59823
U75916	g1839162	g5924408	AF177533	88	Zonula occludens 2 protein (ZO-2)	969.3	1707.2	1.8	1.76127
U75921					APC binding protein EB1	20	1482.3	1.8	74.115
X01785	CAA25925	NP_005935	NM_005944	69	MRC OX-2 antigen	1240	1147.5	1.8	0.9254
X06832	CAA29988	NP_001266	NM_001275	53	Prechromogranin A	3133.2	5607.4	1.8	1.78967
X56747	CAA40069	NP_002290	NM_002299	76	Rat mRNA for fetal intestinal lactase-phlorizin hydrolase	1734.1	1246.8	1.8	0.71899
X60769	CAA43179	NP_005185	NM_005194	53	SF-B (silencer factor B)	587.2	1073.9	1.8	1.82885
X98377	CAA67023	NP_000108	NM_000117	61	Emerin	4552.3	8087.3	1.8	1.77653
X99338	CAA67712	NP_036560	NM_012428	92	Glycoprotein 65	3235.6	5760.7	1.8	1.78041
Y17295	g2317735	P30041	D14662		Rattus norvegicus mRNA for thiol-specific antioxidant protein (1-Cys peroxiredoxin)				
AI639324				91	Homo sapiens clone SP329 unknown mRNA	494.7	891.7	1.8	1.80251
AA799539		NP_005997	NM_006006		ESTs, Weakly similar to 2118318A promyelocyte leukemia Zn finger protein [M.musculus]	406.9	749.2	1.8	1.84124
AA799645	O08589	O00168	U72245	35	FXVD domain-containing ion transport regulator 1	1374.2	2377.7	1.7	1.73024
AA799741		XP_005981	XM_005981	80	suppressor of var1 (S.cerevisiae) 3-like 1 [Homo sapiens]	14627.8	25099.7	1.7	1.71589
AA799812		XP_005386	XM_005386	85n	protein tyrosine phosphatase, non-receptor type 3 (PTPN3),	337.2	580.4	1.7	1.72123
AA800290				84n	EST (not recognized)	577.7	860	1.7	1.48866
AA800699		XP_028517	XM_028517		ESTs, Weakly similar to YN60_YEAST HYPOTHETICAL 32.3 KDA PROTEIN IN KRE1-HXT14 INTERGENIC REGION [S.cerevisiae]	758.9	819.3	1.7	1.07959
AA800719		XP_043341	XM_043341	91n	KIAA1181 protein	480.7	803.1	1.7	1.67069
AA817843				87n	Mus musculus ES cells cDNA, RIKEN	1840.2	3544	1.7	1.92588
AA866472	2008109A	S40510	M86667	97	Nucleosome assembly protein 1-like 1	446.8	769.9	1.7	1.72314
						451.6	946.7	1.7	2.09632

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

AA875192	NP_079642	No Human		Rat EST; mouse hypothetical protein from a Riken	789.7	1324.3	1.7	1.67697
AA891499		AC008462	86n	Homo sapiens chromosome 5 clone CTC-352J10, complete sequence	2016.4	3431.9	1.7	1.70199
NM_013119	NP_037251	XP_008249	64	Sodium channel, voltage-gated, type III, alpha polypeptide (Scn3a)	2019.6	2311.1	1.7	1.14434
AA891790				Mus musculus adult male tongue cDNA, RIKEN	1293.4	2244.1	1.7	1.73504
AA891938				Mus musculus adult male lung cDNA, RIKEN	459.5	609.2	1.7	1.32579
AA892296				Mus musculus chromosome 11, clone RP23-196F5	485.5	1130	1.7	2.3275
AF321130	AAK11183	NP_001518	67	histone deacetylase 2	1431.6	2501.8	1.7	1.74756
AA892538				EST (some homology with mouse chromosome)	441.9	1343.6	1.7	3.04051
L12458	AAA441552	NP_000230	64	lysosome	13049.9	22753.7	1.7	1.74359
AA892854		AF044197		ESTs, Weakly similar to B LYMPOCYTE CHEMOATTRACTANT PRECURSOR [M.musculus]	389.2	675.9	1.7	1.73664
AA892993	AAF66708	XP_047641	40	Mus musculus HMG domain protein HMGX2 (Hmgx2)	1198.6	2026.7	1.7	1.69089
AA893172			73	EST (not recognized)	276.3	756.5	1.7	2.73797
AA893328	P35565	L10284		ESTs, Highly similar to CALX RAT CALNEXIN PRECURSOR [R.norvegicus]	822.7	1410	1.7	1.71387
AA893870			84	28S ribosomal RNA gene (2 on d.s.)	10682.1	18663.1	1.7	1.74714
AA893871		M11167	95n	EST(not recognised)	453.6	1166.4	1.7	2.57143
L09752	AAA441010	NP_001750	88	cyclin D2 (VIN1)	1167.7	2028.2	1.7	1.73692
D29683	BAA06152	XP_033687	90	endothelin-converting enzyme.	433.5	721.3	1.7	1.6639
AA957961	P18395	BAA74908		Rat unr mRNA for unr protein with unknown function	1056.1	1754.7	1.7	1.66149
AB001453	BAA28174	NP_058544	82	N-Shc	1339.8	5515.9	1.7	4.11696
AB009463	BAA32331	AB009462	84	LRp105	356.2	613.1	1.7	1.72122
AF015304	O54698	AF079117		Solute carrier family 29 (nucleoside transporters), member 1	937.7	1614.2	1.7	1.72145
AF020210	AAB71235	XP_050175	78	DLP1 splice variant 4	1001.5	2948.7	1.7	2.94428
AF041107	P49816	XM_046659	83	Tulip 1	645.3	1123.7	1.7	1.74136
AF041373	AAB97078	NP_009097	92	Clathrin assembly protein short form (CALM)	3102.1	5233.2	1.7	1.68699
AF062594	2008109A	S40510	87	Nucleosome assembly protein 1-like 1	420.6	915.7	1.7	2.17713

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AF072439	O88553	Q9Y6Q3	AF022158	70	Rattus norvegicus zinc-finger protein-37 mRNA, complete cds	1103.8	1850.2	1.7	1.67621
AF080568	P19836	Q99447	D84307	88	Phosphate cytidylyltransferase 2, ethanolamine	1664.1	2812.3	1.7	1.68998
AF082533	AAC69890	NP_004820	NM_004829	63	NK receptor KILR-1 (KILR-1)	542.7	1501.9	1.7	2.76746
AF090692	AAC36317	NP_005483	NM_005492	62	Cystatin-related epididymal spermatogenic protein (CRES) mRNA, complete cds	813.8	1356	1.7	1.66626
AF091575	AAC64595	NP_006628	NM_006637	46	HFV-FD1 olfactory receptor	742.3	1283.9	1.7	1.72962
AF096835	AAC83801	NP_004827	NM_004836	77	Rattus norvegicus pancreatic eukaryotic initiation factor 2 alpha-subunit kinase (PEK) mRNA	926.6	1534	1.7	1.55551
M27315	AAB00991	I39382	No Human	97	cytochrome c oxidase subunit I	76787.6	127842	1.7	1.66488
AI072435	A23677	NP_000960	J03827	92	Y box protein 1	792.3	1349.9	1.7	1.70377
NM_031099	NP_112361	JC4940	NM_000969	94	ribosomal protein L5 (Rpl5), Synapsin II	666.8	567.4	1.7	0.85093
AI145494	D30411	XP_044466	U40215	93n	Homo sapiens membrane protein CH1	610	1035.3	1.7	1.69721
AI178267	P13589	I84638	XM_044466	82	Pituitary adenylate cyclase activating polypeptide (41 on d.s.)	617.2	1079.1	1.7	1.74838
AI228407	AAK83555	NP_067021	X60435	98	golli-interacting protein	410	935.8	1.7	2.28244
AY028804	NP_080263	XP_010025	NM_021198	87n	ESTs, Moderately similar to NB4M_HUMAN NADH-UBIQUINONE OXIDOREDUCTASE B14 SUBUNIT [H.sapiens]	1774.8	3002.7	1.7	1.69185
AI229924			XP_010025	98	Stress activated protein kinase alpha II	1650.4	2865.3	1.7	1.73612
AI231354	P49186	P45984	L31951	91	Mus musculus RIKEN cDNA 1500035H01 gene	431.8	754.3	1.7	1.74687
AI234939					type II cAMP-dependent protein kinase regulatory subunit	1558.3	2720.9	1.7	1.74607
M12492	AAA42047	XP_004959	XM_004959		Homo sapiens mRNA; cDNA DKFZp434F1626	1186.4	2780.4	1.7	2.34356
AI639004					Mus musculus, clone MGC:11798 IMAGE:3595439	1203.8	2049.8	1.7	1.70277
AI639020					EST (not recognized)	464.3	969.7	1.7	2.08852
AI639176					Mus musculus adult male testis cDNA, RIKEN	796.2	1801.7	1.7	2.26287
AI639241					Mus musculus, clone MGC:6389 IMAGE:3583081	1546.3	2611.7	1.7	1.689
AI639411					EST(not recognised)	490.9	575.1	1.7	1.17152
AI639425						1137.8	1578.2	1.7	1.38706

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AI639434						EST (not recognized)		901.9	1543.1	1.7	1.71094
AI639471						EST (not recognized)		1802.7	4993.3	1.7	2.7699
AF093576	AAC61874	AAB41498	U83867	51		erythroid alpha-spectrin	AI639523	480.1	833	1.7	1.73506
D10853	P35433	Q06203	D13757	93		Amidophosphoribosyltransferase		952.6	1609.5	1.7	1.68959
D12769	BAA02236	NP_001197	NM_001206	91		BTE binding protein		1318.4	3559.4	1.7	2.69979
D25543	BAA05026	CAA53052	X75304	64		Novel golgi-associated protein GCP360		527.1	910.2	1.7	1.72681
D26154	BAA05141	XP_032627	XM_032627	82		RB109 (brain specific protein)		2099.7	3648.7	1.7	1.73772
D44481	BAA07924	AAH08506	BC008506	92		CRK-II		1184.3	4019.8	1.7	3.39424
D78613	BAA11433	XP_005781	XM_005781	80		Protein tyrosine phosphatase epsilon M		1624.6	2765.3	1.7	1.70214
NM_030656	NP_085914	NP_000021	NM_000030	76		Serine-pyruvate aminotransferase	E01050	1570.5	2674.4	1.7	1.7029
H31859						EST(not recognised)		675.1	1404.1	1.7	2.07984
NM_017014	NP_058710	XP_002155	XM_002155	79		glutathione-S-transferase, mu type 2	H32189	3729.9	6538.7	1.7	1.75305
J02749	AAA41497	NP_001598	NM_001607	83		peroxisomal 3-ketoacyl-CoA thiolase precursor		694.7	1192.8	1.7	1.717
J02998	AAA42006	NP_004152	NM_004161	99		ras protein		1446.4	2501.1	1.7	1.72919
J04591	AAA41096	AAA52308	M80536	81		Dipeptidyl peptidase IV		743.7	1246.5	1.7	1.67608
L34049	AAA51369	NP_004516	NM_004525	73		megalin		1970.4	2314.2	1.7	1.17448
M22400	AAA41735	NP_004475	NM_004484	88		developmentally regulated intestinal protein (OCI-5)		1290.5	2707	1.7	2.09764
M27467	AAA79270	NP_004365	NM_004374	64		Heart cytochrome oxidase subunit VIc (COX-VIc)		3759.4	6488.1	1.7	1.72583
M31038	AAA41608		No Human			MHC non-RT1.A alpha-1-chain protein precursor		624.9	1091.4	1.7	1.74652
M33936	AAA41458	NP_000769	NP_000778	73		cytochrome P450 (IVA3)		559.2	925.3	1.7	1.65469
M58287	AAA41726	XP_038856	XM_038856	83		Rat non-specific lipid transfer protein (nsL-TP) mRNA, 3' end		454	755.1	1.7	1.66322
M64391	AAA41754	NP_003544	NM_003553	56		Olfactory protein mRNA	AF091574	557	970.9	1.7	1.74309
M69055	AAA42019	NP_002169	NM_002178	66		IGFBP-6		8553.8	14283.1	1.7	1.6698
M73049	AAA41444	NP_116116	NM_032727	71		alpha-interneixin		1289.7	3230.7	1.7	2.505
M91652	AAC42038	NP_002056	NM_002065	91		glutamine synthetase		2983	4967	1.7	1.6651
S68736	AAB29713	XP_052590	XM_052590	80		Myosin heavy chain mRNA		2188.2	3759.5	1.7	1.71808
M96578	AAA41303	NP_002967	NM_002976	86n		voltage-dependent sodium channel alpha subunit	S75991	9546.1	18710.4	1.7	1.96
U16686	AAA91974	NP_066290	NM_021010	43		defensin RatNP-1 precursor		1918.2	3276.7	1.7	1.70822
U18762	AAB07997	NP_003699	NM_003708	71		retinol dehydrogenase type I		62.7	647.1	1.7	10.3206
U22321	AAC52202	XP_049422	XM_049422	89		casein kinase 1 gamma 3 isoform		436.2	1054.4	1.7	2.41724
U31159	AAC99858	AAD15418	AC004912	78		CR16		320.6	1012.8	1.7	3.15908

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U35774	AAC52385	NP_005495	NM_005504	72	cytosolic branch chain aminotransferase p58	8454.7	14456.1	1.7	1.70983
U44129	AAC52434	NP_005561	NM_005570	81	Smooth muscle cell LIM protein (SmLIM)	709.7	1205.6	1.7	1.69875
U44948	Q62908	Q16527	U46006	98	Cardiac ankyrin repeat protein	1735.1	2997.2	1.7	1.72739
U50736	A44437	A57291	X83703	90	N-tropomodulin	486.9	813.8	1.7	1.67139
U5240	AAC52854	NP_055363	NM_014548	89	Rattus norvegicus cAMP-regulated guanine nucleotide exchange factor II (cAMP-GEFII) mRNA, partial cds	1525.2	2572.8	1.7	1.68686
U78517	AAD03423	XP_002437	XM_002437	95	Smooth muscle-specific 17 beta-hydroxysteroid dehydrogenase type 3	489.7	813.4	1.7	1.66102
U81186	AAD00504	NP_057226	NM_016142	83	CC-chemokine-binding receptor JAB61 put. preoptic regulatory factor-1	921.3	1562.5	1.7	1.69597
U92803	AAB61572	NP_001287	NM_001296	58	apolipoprotein D	643	1065.7	1.7	1.65739
X53231	CAA37323	NP_001638	No Human	74	decorin	881.5	1468.2	1.7	1.66557
X55572	CAA39158	NP_001911	NM_001920	74	Hydroxysteroid sulfotransferase	29173.3	50377.6	1.7	1.72684
X59859	CAA42519	AAB23169	S43859	59	CCK(B)	24475.2	41608.1	1.7	1.70001
X63410	CAA45007	AAK38351	AY029770	60	zn - alpha2 - glycoprotein	788.5	1307	1.7	1.65758
X79208	CAA55797	NP_001176	NM_001185	59	TPCR13 protein	3326.2	5716.2	1.7	1.71854
NM_012826	NP_036958	XP_036497	XM_036497	71	Rattus norvegicus mRNA for caldendrin	1109.1	1892.6	1.7	1.70643
X89701	CAA61848	NP_112482	NM_031205	98	Pyruvate dehydrogenase E1 alpha form 1 subunit	20	723	1.7	36.15
Y17048	MCRT	NP_000275	NM_000284	95	R. norvegicus mRNA for Ost oncogene	4430.4	9782.2	1.7	2.20797
Z12158	CAA78146	BAA20817	AB002360	88	caveolin	4699.1	7933.9	1.7	1.68839
Z35654	Q63406	XP_004967	XM_004967	95	beta-alanine oxoglutarate aminotransferase	572.9	949.6	1.7	1.65753
Z46614	CAA86587	XP_007904	XM_007904	90	heat shock protein, 105 kDa; HSP105	1520.1	2524.5	1.7	1.66075
D87839	BAA25570	BAA34780	AB003334	89	42 C-HSP	403.5	676.2	1.7	1.67584
NM_013559	NP_038587	NP_006802	NM_006811	71	tumor differentially expressed 1	2967.8	3732.6	1.6	1.2577
NM_012032	NP_036162	CAC11116	AL357374	93n	EST (not recognised)	1797.9	3379.3	1.6	1.87958
AA799751					Human DNA sequence from clone RP11-353C18 on chromosome 20	1657.3	2393.5	1.6	1.44422
AA800126					EST (not recognised)	911.4	1499.2	1.6	1.64494
AA800597					protein phosphatase 2, regulatory subunit B (B56)	1276.9	2585.3	1.6	2.02467
AA800651		NP_006234	NM_006243	89		1548.4	2539.5	1.6	1.64008

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AF062644	AAC16448	XP_052680	XM_052680	71	vascular endothelial growth factor	AA850734	678.2	1073.5	1.6	1.58287
AA859468					EST (not recognized)		496.6	1002.1	1.6	2.01792
AA859520					Mus musculus 18 days embryo cDNA, RIKEN					
AA859911	Q11205	JC5251	U63090	93	Sialyltransferase 5		1118.1	1783.1	1.6	1.59476
Y17793	CAA76850	BAB13394	AB046788	52	Dutt1	AA860017	479.4	759.9	1.6	1.58511
AA866293					EST(not recognised)		688.6	869	1.6	1.26198
AA875050	O54783	Q9Y259	AB029885		ESTs, Weakly similar to KICE RAT CHOLINE/ETHANOLAMINE KINASE [R.norvegicus]		843.7	1320.3	1.6	1.56489
X65704	CAA46626	NP_003085	NM_003094	32	small nuclear ribonucleoprotein E	AA875102	1925.6	3115.6	1.6	1.61799
NM_011070	NP_035200	NP_036526	NM_012394	100	prefoldin 2 (Pfdn2),	AA891049	3721.6	5836.1	1.6	1.56817
AA891271				85	Mus musculus, RIKEN cDNA 2810411G23 gene		2802.1	4376.8	1.6	1.56197
AA891311	AAD03414	AAD53398	AF095735	87	EST(not recognised)		758.9	1180.5	1.6	1.55554
AF067650					sarcosine dehydrogenase	AA891589	637.2	1008.9	1.6	1.58333
AA891742					EST(not recognised)		1881.1	3061.9	1.6	1.62772
AA891828	Q63532	AAH14026	BC014026	88n	Homo sapiens, Similar to RAD23		1159.2	2836.4	1.6	2.44686
AA891911		g685073	S73288	61	Small proline-rich protein gene		1256.5	1980	1.6	1.57581
AF175224	AAG09182	AAG35611	AF202092		preconditioning-inducible gene 1 protein	AA892551	1311.2	2124.7	1.6	1.62042
AA892554		XP_032936	XM_032936	91	Homo sapiens Ras-GTPase activating protein SH3 domain-binding protein 2 (KIAA0660)		1170.6	1856.1	1.6	1.5856
NM_013166	NP_037298	NP_000605	NM_000614	86n	Ciliary neurotropic factor (Cntrf),	AA892559	1108.6	1814.9	1.6	1.63711
AA892642				84	Homo sapiens mRNA; cDNA DKFZp434M229		3710.9	5890.1	1.6	1.58724
AA892780					EST (not recognized)		394.3	1029.6	1.6	2.61121
AA892805					Mus musculus adult male testis cDNA, RIKEN		2425.7	3841.4	1.6	1.58363
AA892895	R3RT15	R3HU15	J02984	100	Ribosomal protein S15		1543.6	3008.2	1.6	1.94882
AA893596	AK016067	AAH03542	BC003542	93(mus)	Mouse RIKEN full-length cDNA		1790.6	2813.3	1.6	1.57115
AA893743					EST(not recognised)		696.4	1106.8	1.6	1.58932
L18891	AAA41637	XP_048126	XM_048126	62	intracellular calcium-binding protein	AA957003	1585.5	2482.1	1.6	1.5655
AB015194	BAA32443	XP_035439	XM_035439	71	50 kD glycoprotein (Rh50)		4329.2	6984.5	1.6	1.61335
AB015637	BAA31130	NP_000139	NM_000148	76	alpha(1,2) fucosyltransferase		465.7	733	1.6	1.57397
AB017596	BAA33393	AAF36094	AF110304	73	PC1 mRNA for plasma cell membrane glycoprotein, partial cds		3790.8	6089.7	1.6	1.60644
AB019393	BAA34199	NP_000252	NM_000261	78	myocilin		754.3	1188.1	1.6	1.5751
							9560.4	13879.5	1.6	1.45177

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

AF019043	Q08877	JC5695	AB006965		Rattus norvegicus dynamin-like protein DLP1 isoform DLP1-37 mRNA, complete cds		951.1	1483.8		1.6	1.56009
AF031657	AAC53578	NP_003416	NM_003425	100	Zinc-finger protein 94 (Zfp94) gene, partial cds		1123.7	1795.3		1.6	1.59767
AF039085	g2773064	g2959872	AJ002308	86	Synaptogyrin 2		2137.3	3427.5		1.6	1.60366
AF041066	AAC23487	NP_002928	NM_002937	87	ribonuclease 4		477.7	749.5		1.6	1.56898
AF056324	AAC29479	NP_002958	NM_002967	73	scaffold attachment factor B; SAF-B		1237.4	2010.3		1.6	1.62462
AF065387	O88496	P38435	M81592	74	Gamma-glutamyl carboxylase		762.7	1721.4		1.6	2.25698
AF072411	AAC24876	XP_034144	XM_034144	88	fatty acid translocase/CD36 mRNA		767.6	1266		1.6	1.6493
AF072935	AAC26004	XP_053461	XM_053461	84	small GTP-binding protein rab5		1760.7	2820.7		1.6	1.60203
AF091573	AAC64594	NP_003544	NM_003553	97	HGL-SL2 olfactory receptor	AF091574	554.7	890		1.6	1.60447
AF091577	AAC64597	NP_036492	NM_012360	66	HAF-TP1 olfactory receptor		633.2	1016		1.6	1.60455
AF095741	AAC64190	XP_054663	XM_054663	67	MG87		210.5	1578.2		1.6	7.49739
AI008888	UDRTS	P04080	U46692	66	Cystatin beta		1183	1927.9		1.6	1.62967
AF351476	AAK30621	XP_053763	XM_053763	78	transcription factor MRG1	AI014091	438.5	707.9		1.6	1.61437
Y17322				74	CDK103	AI014135	6202.9	9862.3		1.6	1.58995
AI071511	T41751	P55196	AB011399	91	Afadin (31 on d.s.)		1213.9	1964.3		1.6	1.61817
NM_024155	NP_077069	NP_001144	NM_001153	89	ZAP 36/annexin IV (Anxa4), nuclear protein E3-3orf3	AI171167	1114.3	1745.4		1.6	1.56636
U95162	AAB54065	AAH02873	BC002873	73	tripeptidylpeptidase II	AI171562	962.2	1559.7		1.6	1.62097
NM_031137	NP_112399	AAA63263	M55169	89	kangai 1 (suppression of tumorigenicity 6), prostate (Kai1),	AI178007	584.2	932.1		1.6	1.59552
NM_031797	NP_113985	NP_002222	NM_002231	62	Glutamine synthetase (glutamate-ammonia ligase)	AI231213	2306.1	3804.3		1.6	1.64967
NM_017073	NP_058769	NP_002056	NM_002065	91	cysteine rich protein (Csrp1), ESTs, Highly similar to CALX RAT CALNEXIN PRECURSOR	AI232783	10667.7	16912.8		1.6	1.58542
NM_017148	NP_058844	NP_004069	NM_004078	79	[R.norvegicus]	AI234146	5874	9141.7		1.6	1.5563
AI235707	P35565	P27824	L10284		MHC class I RT1.C/E (transmembrane protein)						
X16979	CAA34850		No Human	84	SPA-1 like protein p1294		3286.9	5836.6		1.6	1.77572
AF026504	AAB81526	AAC83179	AC004974	81	EST(not recognised)	AI235890	141.9	517.1		1.6	3.64412
AI638965					EST(not recognised)	AI237576	1067.3	2250.3		1.6	2.1084
AI638980					EST(not recognised)		647.8	1434.8		1.6	2.21488
AI639132					EST(not recognised)		1376	2187.1		1.6	1.58946
AI639264					EST(not recognised)		554.2	610.2		1.6	1.10105
NM_016926	NP_058622	BAA78384	AB020880	77	squamous cell carcinoma antigen recognized by T-cells 3 (Sart3), EST(not recognised)	AI639476	569.7	897.6		1.6	1.57557
AI639486							353.5	580.8		1.6	1.643
							176.9	616.2		1.6	3.48332

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AJ06855	S68448	O43426	AF009040	87	Synaptotagmin 1	2264.6	2102.3	1.6	0.92833
D12573	P32076	P41211	D16593	98	Hippocalcin	1176.2	3289.6	1.6	2.7968
D14839	BAA03573	NP_002001	NM_002010	99	Fibroblast growth factor 9	2759.8	5440.1	1.6	1.97119
D31873	I58353	JP0078	D26309	95	LIM-domain containing, protein kinase	4057.2	4465.4	1.6	1.10061
D38261	BAA07413	AAG39636	AF086924	96	B-regulatory subunit of protein phosphatase 2A	3038.2	4102.1	1.6	1.35017
D64045	BAA18932	XP_043865	XM_043865	87	phosphatidylinositol 3-kinase p85 alpha subunit	545.4	846	1.6	1.55116
NM_012641	NP_036773	AAD51330	AF172331	69	regeneration protein, lithostatin, pancreatic stone protein	846.1	1320.6	1.6	1.56081
D14424	BAA03317	NP_003730	NM_003739	70	20-alpha-hydroxysteroid dehydrogenase	1026.6	1888	1.6	1.83908
H31323					Rattus norvegicus clone RP31-153J8 strain Brown Norway	832.1	1595.6	1.6	1.91756
H33219		XP_002656	XM_002656	91n	Hypothetical protein FLJ20080 (Human)	693.8	1083.3	1.6	1.5614
H33467					EST(not recognised)	496.7	812.5	1.6	1.6358
H33651					EST(not recognised)	653.2	1018.9	1.6	1.55986
J02675	AAA42113		No Human		spermine-binding protein precursor	327.9	518.1	1.6	1.58005
K03486	AAA41865	NP_002729	NM_002738	99	protein kinase C type III	191.5	833.5	1.6	4.35248
L03201	Q02765	A42482	M90696	76	Cathepsin S	1689.8	2756.4	1.6	1.6312
L23148	P41135	JC5396	U57645	90	Inhibitor of DNA binding 1, helix-loop-helix protein (splice variation)	1216	1909.7	1.6	1.57048
L35558	AAB51161	NP_004161	NM_004170	82	neuronal glutamate/aspartate transport protein	521.9	837	1.6	1.60376
M12156	AAA41314	XP_015755	XM_015755	99	helix-destabilizing protein	2251.1	3566.7	1.6	1.58443
M18331	AAA41872	NP_005391	NM_005400	98	Protein kinase C epsilon subspecies	1213	1885.2	1.6	1.55416
M33648	AAA41336	NP_005509	NM_005518	88	3-hydroxy-3-methylglutaryl-CoA synthase	2680.7	4750.7	1.6	1.77219
M34176	P21851	P21851	M34175		R.norvegicus beta-chain clathrin associated protein complex AP-2 mRNA, complete cds	3118.9	4895	1.6	1.56946
M35074	AAA41583	NP_000892	NM_000901	100	mineralocorticoid receptor	546.4	879.1	1.6	1.60889
M64755	AAC42063	XP_029712	XM_029712	87	cysteine sulfinic acid decarboxylase	493	770.6	1.6	1.56308
M65251	Q00900	P31629	M60119	88	Human immunodeficiency virus type I enhancer-binding protein 2	508	963.2	1.6	1.89606
M90518	AAA88788	Q14833	U92457	96	Glutamate receptor, metabotropic 4	2249.2	3509.6	1.6	1.56038
S46785	P35859	P35858	M86826	77	Insulin-like growth factor binding protein complex acid-labile subunit	888	1403.7	1.6	1.58074
S61948	AAB26775	NP_002465	NM_002474	97	smooth muscle myosin heavy chain isoform SM1A; SMHC SM1A	483.8	756.3	1.6	1.56325

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M22063	AAA41297	XP_046330	XM_046330	91	glucose transporter protein	S68135	2074.4	3360.4	1.6	1.61994
S70804	NP_036860	AAC50050	U01156		clone p6.1 transcript		747.8	1161	1.6	1.55255
NM_012728					pancreatic beta cell receptor for the					
					gluco-incretin hormone glucagon-like					
					peptide 1					
S78556	AAB34982	NP_004125	NM_004134	88	75 kda glucose regulated protein	S75952	583.5	936.2	1.6	1.60446
S78744	AAC60704	AAA60181	Y00692	93			1317.2	2058.5	1.6	1.56278
					protein S=activated protein C cofactor					
NM_017044	NP_058740	NP_000306	NM_000315	80	Parathyroid hormone (Pth)	S80127	443.3	707.6	1.6	1.59621
U12268	AAA50832	NP_001730	NM_001739	71	carbonic anhydrase V		747.5	1187.9	1.6	1.58916
U17261	AAA56772	AAB62398	U80835	70	arylamine N-acetyltransferase-2.		20	1098.1	1.6	54.905
U32314	P52873	G01933	XM_035184	82	Pyruvate carboxylase		360	559.2	1.6	1.55333
U39320	AAA81372	CAC15495	AL118506	96	cysteine string protein		487.3	773.9	1.6	1.58814
U48592	AAB03502	NP_002173	NM_002182	87	Interleukin-1 receptor accessory protein		1441.2	2303.5	1.6	1.59832
					erbB3 proto-oncogene		1118.3	3018.9	1.6	2.69954
U52530	AAC53050	AAA35790	M29366	70	P2u receptor protein		1526.6	3446.3	1.6	2.2575
U56839	AAC00048	NP_002555	NM_002564	77	protein tyrosine phosphatase alpha		1141.9	1779.4	1.6	1.55828
U57500	AAB02230	NP_002827	NM_002836	98	mud-7		2527.7	4004.6	1.6	1.58429
U70268					Rattus norvegicus Bcl-xalpha mRNA,		10364.7	19225.8	1.6	1.85493
U72350	AAB17353	XP_046220	XM_046220	91	complete cds		1204.7	1973.7	1.6	1.63833
U75395	AAC52634	NP_005063	NM_005072		furosemide-sensitive K-Cl cotransporter					
U76206	O35881	Q15391	D13626	87	Rattus norvegicus VTR 15-20 receptor		839.6	1372.2	1.6	1.63435
U76997	AAB19066	NP_005566	NM_005575	80	mRNA, complete cds		469.9	739.6	1.6	1.57395
U92564	AAB58646	BAA34480	AB018303	83	Insulin-regulated membrane aminopeptidase IRAP		1658.2	2707.5	1.6	1.63279
					Rattus norvegicus Olf-1/EBF associated					
					Zn finger protein Roaz mRNA,					
					alternatively spliced form, complete cds		736.6	1179.8	1.6	1.60168
X04139	CAA27756	NP_002729	NM_002738	96	protein kinase C C-terminal region		2570	3987.5	1.6	1.55156
X14848				100	Rattus norvegicus mitochondrial genome	AA945152	1804.9	3397.2	1.6	1.88221
X17607	CAA35609	XP_004030	XM_004030	87	Rat beta-2 adrenergic receptor		656.6	1490.2	1.6	2.26957
X55246	CAA38987	XP_032738	XM_032738	85	inhibitory glycine receptor alpha-1 subunit		1194	1122.1	1.6	0.93978
X56729	CAA40053	BAA03747	D16217	56	calpastatin/CANP inhibitor		1622.2	2624.3	1.6	1.61774
X66140	CAA46930	AAG43987	AF215824	63	Epididymal apical protein I		1222.1	1428.3	1.6	1.16873
X69903	CAA49528	NP_000409	NM_000418	46	interleukin 4 receptor		3409.4	2972.9	1.6	0.87197

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X80130	CAA56429	NP_005150	NM_005159	100	Alpha-actin cardiac protein		1866.1	3026.5	1.6	1.62183
X97443	CAA06212	P49755	X97442	96	Integral membrane protein Tmp21-i (p23)		1836.7	2913.7	1.6	1.58638
Y13381	CAA73808	NP_001626	NM_001635	70	Amphiphysin		1054.7	1679.3	1.6	1.59221
Z17319	CAA78967	P15259	J05073	93	Phosphoglyceromutase		1976.1	3134.9	1.6	1.58641
Z29072	CAA82313	AA895295	L21998	63	Mucin		626.4	839.1	1.6	1.33956
NM_031577	NP_113765	NP_066567	NM_021081	55	growth hormone releasing hormone	Z34004	675	1619.9	1.6	2.39985
NM_012520	NP_036652	NP_001743	NM_001752	88	Catalase	AA926149	1104.4	1805.6	1.6	1.63491
X80130	CAA56429	NP_005150	NM_005159	100	alpha-actin cardiac	AI104567	298.7	775.7	1.6	2.59692
U17837	AAA74468	NP_036363	NM_012231	67	zinc finger protein RIZ		1624.6	1443.6	1.6	0.88859
X78848	CAA55405	NP_000838	NM_000847	75	glutathione S-transferase Yc1 subunit	S72505	2031.5	1905.5	1.6	0.93798
AA684919					EST (not recognized)		2838.5	4290.8	1.5	1.51164
AA686164					Mus musculus, Similar to dendritic cell protein, clone MGC:11741		400.4	614.9	1.5	1.53571
AA799497					Mus musculus 18 days embryo cDNA, RIKEN		889.4	1375.3	1.5	1.54632
AA799511		AAC09039	AC004520		Homo sapiens BAC clone CTB-119C2 from 7p15, complete sequence (similar to NFE2-related transcription factors)		699.5	1062.2	1.5	1.51851
AA799518				97	EST(not recognised)		996.7	1074	1.5	1.07756
NM_028152	NP_082428	XP_050855	XM_050855	82	MMS19	AA799566	12231.9	17792.2	1.5	1.45457
X51705	CAA36001	NP_009140	NM_007209	71	ribosomal protein L35.	AA799571	5040.4	9241.4	1.5	1.83347
NM_031331	NP_112621	NP_002801	NM_002810	88	proteasome (prosome, macropain) 26S	AA799887	7597.9	11060.1	1.5	1.45568
AA799891					Mus musculus adult male hippocampus cDNA, RIKEN		487.1	732.3	1.5	1.50339
AA800170		NP_003434	NM_003443		ESTs, Weakly similar to ECTODERM-NEURAL CORTEX-1 PROTEIN (ENC-1) [M.musculus]		2268.2	2340.6	1.5	1.03192
AA800177				38	EST (not recognized)		1197.3	1747	1.5	1.45912
AA800212	A30594	P16614	M23115		ATPase, Ca++ transporting, cardiac muscle, slow twitch 2		3066.9	3515.5	1.5	1.14627
AF364071	AAK50399	NP_055147	NM_014332	98	SMPX protein	AA800221	779.8	1146.9	1.5	1.47076
AA800260				81	EST (not recognized)		420.3	631.3	1.5	1.50202
NM_020564	NP_065559	XP_049964	XM_049964		sulfotransferase-related protein SULT-X1		804.7	1207.7	1.5	1.50081
AA800613	P47973	S34427	M63625	41	Rattus norvegicus gene for TIS11	AA800315	1596.4	1734.4	1.5	1.08644
AA800881				86	EST(not recognised)		3330.4	7821.1	1.5	2.3484

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AF016049	AAC27975	NP_000421	NM_000430		platelet-activating factor acetylhydrolase beta subunit (PAF-AH beta)	AA801441	3260.6	4848.1	1.5	1.48687
M31363	AAA41356	NP_003158	NM_003167	99	hydroxysteroid sulfotransferase	AA817987	1092.4	909.7	1.5	0.83275
NM_012925	NP_037057	NP_000602	NM_000611	49	CD59 antigen	AA818025	23194.7	34177.6	1.5	1.47351
AA859585					Mus musculus adult male cerebellum cDNA, RIKEN		1455.3	2772.8	1.5	1.90531
AA859909					EST(not recognised)		868.3	1331.8	1.5	1.5338
AA860044	AAH03203	CAB45016	Z93930	87n	Contains the XBP1 gene for X-box binding protein 1		1528.4	2272.5	1.5	1.48685
NM_017158	NP_058854	NP_000760	NM_000769	72	cytochrome P450, 2c39	AA866240	2650.2	4008.7	1.5	1.5126
AA866409	XP_031553	XP_031553	XM_031553	84	Homo sapiens KIAA0332 protein (KIAA0332)		1182.9	1831.8	1.5	1.54857
AA866439					EST(not recognised)		3555.1	5343.2	1.5	1.50297
AA874857										
AA875194					Homo sapiens PAC clone RP4-673M15		366.8	533.8	1.5	1.45529
AA875500					EST(not recognised)		1240.3	2073.8	1.5	1.67201
NM_009745	NP_033875	XP_047123	XM_047123	87n	Homo sapiens KIAA1460 protein		876.4	1066.6	1.5	1.21702
NM_009274	NP_033300	XP_001698	NM_001707	74	B-cell CLL/lymphoma 7B (Bcl7b), serine/arginine-rich protein specific kinase 2	AA875661	1447.4	2112.7	1.5	1.45965
AF253473	AAK29279	NP_061967	NM_019094	80	diphosphoinositol polyphosphate phosphohydrolase type II	AA891069	964.5	1409.9	1.5	1.46179
NM_031026	NP_112288	NP_006132	NM_006141	85	LI-C-2 dynein light intermediate chain 53/55	AA891107	949.1	2512.9	1.5	2.64767
AA891700				90	EST (moderately similar to human transmembrane protein)	AA891132	699.5	1268.6	1.5	1.81358
AA891738	Q07116	P51687	L31573	87	Sulfite oxidase		563.1	818.7	1.5	1.45392
AA891800					Mus musculus 18 days embryo cDNA, RIKEN		1424.6	2154	1.5	1.512
AA891922			AC021396		Homo sapiens, clone RP11-2812, complete sequence		1160.6	1773.5	1.5	1.52809
AA891998				86n	EST(not recognised)		506.7	591.3	1.5	1.16696
AA892248					Rattus norvegicus mitochondrial genome		1404.6	2138.1	1.5	1.52221
AA892300		XP_043322	XM_043322	92n	peroxisome receptor 1 (PXR1)		80657	120243.3	1.5	1.4908
AA892313					Mus musculus 10 days embryo cDNA, RIKEN		1003.7	1472.2	1.5	1.46677
NM_022298	NP_071634	XP_028662	XM_028662	93	alpha-tubulin	AA892333	2396.2	3538	1.5	1.4765
							19107	29544.5	1.5	1.54627

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AA892507	BAB22691	Q14197	X81788	83n	ESTs, Moderately similar to DS1_HUMAN DS-1 PROTEI [H.sapiens]	1080.7	1320.9	1.5	1.22226
AA892531	B39066	PIHUB6		38	ESTs, Weakly similar to B39066 proline-rich protein 15 - rat [R.norvegicus]	3310.7	4963.6	1.5	1.49926
AA892557					Mus musculus 18 days embryo cDNA, RIKEN	1159.2	1694.8	1.5	1.46204
Z34922	CAA84402	NP_001354	NM_001363	81	nucleolar protein NAP57	2437.1	3631.9	1.5	1.49025
AA892753					Mus musculus adult male testis cDNA, RIKEN	2690.2	4157.8	1.5	1.54554
AA892851		AAC50062	U02680	93n	EST, weakly similar to Human protein tyrosine kinase	290.2	770.6	1.5	2.65541
AA892921					Mus musculus RIKEN cDNA 2210417O06	2594.7	3894.4	1.5	1.50091
AA892986					Mus musculus, Similar to glycogenin 2, clone MGC:6424 IMAGE:3593927	1147.6	1673.5	1.5	1.45826
AA893011					Mus musculus, Similar to cytochrome P450, 4a10, clone MGC:25972	1674.6	2580.7	1.5	1.54108
NM_018737	NP_061207	NP_062831	NM_019857	83	cytidine 5'-triphosphate synthase 2; CTP synthetase homolog	1177.9	1725.1	1.5	1.46456
NM_023721	NP_076210	NP_057078	NM_015994	92	ATPase, H+ transporting lysosomal vacuolar proton pump; V-ATPase subunit D	4062.1	5935.6	1.5	1.46121
AF285154					AA893246	3608.1	5319	1.5	1.47418
NM_013731	NP_038759	XP_009494	XM_009494	90	solute carrier family 10 member 2 gene	3602.5	5227.2	1.5	1.45099
U51017	AAB39509	NP_006206	NM_006215	53	serum/glucocorticoid regulated kinase 2 kallistatin	898	1335	1.5	1.48664
AA893607					Mus musculus, Similar to paxillin, clone IMAGE:3583842	1186.3	1973.4	1.5	1.66349
AA893670					EST (not recognized)	2199.9	3208.3	1.5	1.45838
AA893671	Q63244	1923399A	U02310		ESTs, Weakly similar to HEPATOCYTE NUCLEAR FACTOR 3 FORKHEAD	868.4	1329.2	1.5	1.53063
AF275151	AAF86977	XP_039385	XM_039385	93	HOMOLOG 1 [R.norvegicus]	2538.8	2873.8	1.5	1.13195
AA893994				73	androgen receptor-related apoptosis-associated protein CBL27	1119.7	1677.7	1.5	1.49835
NM_032083	NP_114472	CAA35769	X51408	97	Mus Musculus Strain C57BL6/J Chromosome 11 Clone RP23-271O13	4075.2	6194.9	1.5	1.52015
					chimerin (chimaerin) 1 (Chn1),				

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AB006446	NP_031403	NP_004911	NM_004920	85n	topoisomerase II alpha, 3' untranslated apoptosis-associated tyrosine kinase (AatK)	AA899854	784.1	1174.4	1.5	1.49777
NM_007377	S22415	g1518269	X94333	56	Trans-Golgi network integral membrane protein TGN38	AA925717	5919.7	8835.6	1.5	1.49258
AA926242	AAG21394	NP_001736	NM_001745	50	calcium-modulating cyclophilin ligand	AA943387	544	789.8	1.5	1.45184
AF302085	Q62655	P15884	M74719	81	R8f DNA-binding protein	AA943387	1764.8	2579.1	1.5	1.46141
AA956941	CAA55338	AAD40383	AF100740	97	ARF-like protein 5	AA956958	766.9	1166.7	1.5	1.52132
X78604	BAA20360	NP_061752	NM_018929	99	RT1.P1 pseudogene for TL antigen	AA956958	413	610.5	1.5	1.47821
AB002169	BAA32480	NP_000939	NM_000948	72	Protocadherin 5	AA956958	3944.2	5792.3	1.5	1.46856
AB004277	BAA32459	XP_042739	XM_042739	26	prolactin-like protein H	AA956958	5498.4	8112.3	1.5	1.47539
AB009889	BAA32734	NP_003311	NM_003320	63	MEGF2	AA956958	468.8	687.2	1.5	1.46587
AB011528	BAA34311	NP_004263	NM_004272	77	TUBBY protein	AA956958	1032.6	2592.9	1.5	2.51104
AB011544	BAA32596	NP_002801	NM_002810	91	PSD-Zip45	AA956958	816.7	1193.8	1.5	1.46174
AB017140	AAC82319	XP_037529	XM_037529	88	antisecretory factor	AA956958	1317.3	1708.7	1.5	1.29712
AB017188	P41138	Q02535	X69111	83n	p58/p45 mRNA, alternatively spliced form	AA956958	13322.7	19353.8	1.5	1.45269
AF000942	AAB82740	XP_012875	XM_012875	96	Inhibitor of DNA binding 3, dominant negative helix-loop-helix protein	AA956958	504.6	775.8	1.5	1.53746
AF000973	AAB67609	AAA63169	L39945	75	Calcium-activated potassium channel (rSK1) mRNA	AA956958	1228.2	2938.9	1.5	2.39285
AF007107	Q35180	Q99963	X99664	89	cytochrome b5	AA956958	2764.6	4672.9	1.5	1.69026
AF009604	AAC05305	NP_005494	NM_005503	86	SH3 domain protein 2 C1	AA956958	1335.1	743.8	1.5	0.55711
AF029107	AAC33834	AAB49679	U84487	82	Min2; neuronal munc18-1 binding protein	AA956958	1465.4	1877.6	1.5	1.28129
AF030358	AAB86946	NP_064445	NM_020061	63	Rattus norvegicus chemokine CX3C mRNA, complete cds	AA956958	1228.3	3071.3	1.5	2.50045
AF031528	AAC01578	CAB54145	AL031770	89	green-sensitive opsin	AA956958	2295.2	4145.2	1.5	1.80603
AF032666	AAC40114	XP_055306	XM_055306	94	Rattus norvegicus rsec5 mRNA, complete cds	AA956958	1759.7	2558	1.5	1.45366
AF032872	AAB88865	AAD29870	AF097514	88	potassium channel regulatory protein KChAP	AA956958	1556.3	2352.4	1.5	1.51153
AF036761	T14039	O14578	AC002563	92	stearoyl-CoA desaturase 2	AA956958	6600.8	9764.2	1.5	1.47924
AF039218	AAC77439	XP_052060	XM_052060	96	Postsynaptic density protein (citron)	AA956958	1081.9	1611.2	1.5	1.48923
AF039584	XP_008271	XP_008271	XM_008271	47	Decay accelerating factor soluble-form precursor (DAF) mRNA, complete cds	AA956958	2114.9	1938.2	1.5	0.91645
AF040261	AAC98929	XP_008271	XM_008271	81	Phosphatidylcholine transfer protein (Pctp)	AA956958	781.8	1193.4	1.5	1.52648

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

AF069775	AAC21580	AAB60937	AF002246	90	Rattus norvegicus L1-like cell adhesion molecule (CALL) mRNA	422.9	686	1.5	1.62213
AF079162	AAC99398	NP_000255	NM_000264	92	Rattus norvegicus patched (ptc) mRNA, partial cds	3093.1	7339.6	1.5	2.37289
AF081365	2009199A	C55119	U03884	95	Potassium inwardly-rectifying channel, subfamily J	882.2	1973.1	1.5	2.23657
AF083330	AAC33291	XP_039750	XM_039750	82	kinesin-like protein KIF3C	2301.6	3216.4	1.5	1.39746
AF087037	AAC34894	XP_012976	XM_012976	83	BTG3	523.3	983.6	1.5	1.87961
AF089839	AAC63035	XP_032173	XM_032173	96	N-ethylmaleimide sensitive factor	608	889.4	1.5	1.46283
AF091247	AAC79846	NP_004510	NM_004519	95	Rattus norvegicus potassium channel (KCNQ3)	2853.5	4894.7	1.5	1.71533
AF091578	AAC64598	NP_006628	NM_006637	47	Rattus norvegicus isolate EVA-TN1 olfactory receptor mRNA, partial cds	1504.5	2328.9	1.5	1.54796
AF110508	AAC95393	NP_000594	NM_000603	97	endothelial nitric oxide synthase	1200.6	1820	1.5	1.51591
AI008852	g1220484	P04720	X03558	99	Eukaryotic translation elongation factor 1 alpha 2	5992.4	10085	1.5	1.68297
NM_012588	NP_036720	XP_038125	XM_038125	76	insulin-like growth factor-binding protein (IGF-BP3)	393	601.9	1.5	1.53155
AI010371					EST(not recognised)	853.9	805.4	1.5	0.9432
NM_012699	NP_036831	NP_036460	NM_012328	86	microvascular endothelial differentiation gene 1	628.1	984.2	1.5	1.53511
Y07783	CAA69106	NP_003704	NM_003713	91	ER transmembrane protein	2233.3	3375.7	1.5	1.51153
AI029805	1CKTA	S02826	X12597	99	High mobility group 1	325.5	503.9	1.5	1.54808
U35245	AAC52986	BAB55345	AK027754	96	vacuolar protein sorting homolog r-vps33b	3212.3	4657.9	1.5	1.45002
M25888	AAA41888	NP_000524	NM_000533	100	lipophilin	2534.4	3793.1	1.5	1.49665
AI072943	P47971	Q15818	U61849						
				95	Rattus norvegicus neuronal pentraxin precursor mRNA, complete cds	2119.6	3278.5	1.5	1.54675
AI073164					EST(not recognised)	1209.2	2412	1.5	1.99471
U70050	AAC52946	NP_002217	NM_002226	82	jagged2 precursor	3368.2	2614	1.5	0.77608
M15883	AAA40890	NP_009028	NM_007097	90	clathrin light chain (LCB2)	660.8	823.6	1.5	1.24637
AF259674	AAK69389	XP_027464	XM_027464	90	phosphoserine aminotransferase	967.6	1202.1	1.5	1.24235
AI104679					Mus musculus adult male kidney cDNA, RIKEN	6471.6	9541.9	1.5	1.47443
NM_013030	NP_037162	AAH11351	BC011351	83	solute carrier family 17 (sodium/hydrogen exchanger)	1615.8	3846.6	1.5	2.38062
M96374	AAA41704	AAF03536	AC007462	97	neurexin I-alpha.	2301	3517.7	1.5	1.52877
NM_031552	NP_113740	NP_058432	NM_016824	86	Adducin 3, gamma	2549.9	3812	1.5	1.49496
M94040	AAA73899	NP_000047	NM_000056	83	branched chain alpha-keto acid dehydrogenase E1-beta subunit	1473.4	2616.3	1.5	1.77569

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Z11663	CAA77731	CAB08440	no human	CD24	AI171462	4434.8	6452.1	1.5	1.45488
NM_031020	NP_112282	CAB08440	Z95152	p38 mitogen activated protein kinase	AI171630	1355.7	3214.5	1.5	2.3711
NM_012904	NP_037036	NP_000691	NM_000700	annexin 1 (p35) (Lipocortin 1)	AI171962	2194.2	3362.8	1.5	1.53259
M86389	AAA41353	NP_001531	NM_001540	heat shock protein 27 (Hsp27)	AI176658	28481.7	47185.4	1.5	1.65669
AI177161	O54968	I59340	S74017	NF-E2-related factor 2		1054.2	1551	1.5	1.47126
AI179916				Mus musculus brain cDNA, clone MNCb1308		2293.5	3537.4	1.5	1.54236
AI180442	A34713	P14324	J05262	Testis-specific farnesyl pyrophosphate synthetase		2220.3	3260.9	1.5	1.46868
D87671	BAA13432	NP_060918	NM_018448	TIP120	AI230395	1545.2	2326.9	1.5	1.50589
NM_019123	NP_061996	CAC07404	AJ271734	sialyltransferase 7 ((alpha-N-acetylneuraminyl 2,3-betagalactosyl-1,3)					
				N-acetyl galactosaminide alpha-2,6-sialyltransferase) C	AI231519	732.9	1081.1	1.5	1.4751
AI232012	BAB22322	XP_005415	XM_005415	Homo sapiens NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 8		6804.7	12266.8	1.5	1.8027
D85189	BAA22195	CAA73314	Y12777	Acyl-CoA synthetase	AI236284	944.8	2775.4	1.5	2.93755
X64411	CAA45756	NP_056986	NM_015902	100 kDa protein	AI237592	2001.5	2174.1	1.5	1.08624
AI639001				EST (not recognized)		558.6	1318.5	1.5	2.36037
AI639019				EST (not recognised)		447.1	522.6	1.5	1.16887
AI639074				EST (not recognised)		999.9	2725.9	1.5	2.72617
AI639141				Mus musculus 11 BAC RP23-362J7		758.4	1116.7	1.5	1.47244
AI639255				EST (not recognised)		1920.9	2845.7	1.5	1.48144
AI639364				EST (not recognised)		914.9	1767.3	1.5	1.93169
AI639391				EST (not recognised)		4424.1	6525.4	1.5	1.47497
AI639427				EST (not recognised)		1097.8	1634	1.5	1.48843
AI639432				EST (not recognised)		1428	2207.8	1.5	1.54608
AI639447				Mus musculus 18 days embryo cDNA, RIKEN		703.9	1363.7	1.5	1.93735
NM_031669	NP_113857	AAL16670	AF421885	uterine-specific proline-rich acidic protein	AI639531	781.5	1181.9	1.5	1.51235
AJ001320	CAA04681	NP_003820	NM_003829	Multiple PDZ domain protein		743.7	1458.7	1.5	1.96141
AJ006064	CAA06836	NP_055140	NM_014325	coronin-like protein		2311.7	1603.2	1.5	0.69352
AJ010386	CAA09103	XP_043098	XM_043098	ETR-R3b protein		528.7	813.6	1.5	1.53887
D00512	BAA00401	NP_000010	NM_000019	mitochondrial acetoacetyl-CoA thiolase		672.6	996.7	1.5	1.48186
D10754	BAA01586	XP_027825	XM_027825	proteasome subunit R-DELTA		4768.6	7943.6	1.5	1.66581
D12927	BAA02310	NP_003186	NM_003195	transcription elongation factor S-II		1165.3	1720.9	1.5	1.47679
D17614	BAA04533	NP_006817	NM_006826	14-3-3 protein theta-subtype		4050.8	5024.3	1.5	1.24032

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D26500	BAA05508	NP_001363	NM_001372	80	Dynein-like protein 9A, partial cds	831	1285.8	1.5	1.54729
D31873	I58353	JP0078	D26309	95	LIM-domain containing, protein kinase	1533.4	2242.2	1.5	1.46224
D37880	P55146	A53743	L24529	89	Bruton agammaglobulinemia tyrosine kinase (32 on d.s.)	1280.7	1910.1	1.5	1.49145
D38072	BAA07266	XP_056374	XM_056374	97	protein tyrosine phosphatase	800.6	1163.9	1.5	1.45378
D49434	BAA08412	AAA51784	J05225	80	Arylsulfatase B	356.9	530.8	1.5	1.48725
U32170	AAD03478	NP_004674	NM_004683	74	senescence marker protein-30 (SMP30)	D67071	1279.2	1.5	1.45067
D3661	BAA12035	AAB60366	U20141	79	gene (regucalcin)				
D85844	BAA21782	XP_008531	XM_008531	93	inducible nitric oxide synthase				
D90404	A41158	S66504	X87212	78	rabaptin-5				
H31217					Cathepsin C (dipeptidyl peptidase I)				
NM_013625	NP_038653	NP_000421	NM_000430	99	EST (not recognized)	461.7	670.9	1.5	1.45311
H31479					platelet-activating factor acetylhydrolase	985.6	1497.7	1.5	1.51958
H31590		AAF69029	AF132811	88n	Nectin-like protein 2	H31367	19539.5	1.5	1.52537
H33149					EST(not recognised)				
H33528					Mus musculus, Similar to hypothetical protein FLJ11200, clone MGC:7482				
J01435					Homo sapiens chromosome 17, clone hRPK.214_C_8				
J02649	AAA66036	XP_009351	XM_009351	93	Rattus norvegicus mitochondrial genome				
J04503	AAA41917	NP_066283	NM_021003	98	H+ K+-ATPase	67882.6	102306	1.5	1.5071
L00191	AAA41166	AAA52462	M10905	76	protein phosphatase 2c.	1398.5	2050	1.5	1.46586
L01702	AAA41983	CAA37447	X53364	89	fibronectin 1	1337.9	1947.8	1.5	1.45586
L04485	AAA41571	NP_002746	NM_002755	90	Tyrosine-phosphatase (LRP)	3431.7	5347.1	1.5	1.55815
L05489	Q06175	Q99075	M60278		MAP kinase kinase	831.9	1690.1	1.5	2.03161
L10072	AAA40615	NP_076917	NM_024012	81	Diphtheria toxin receptor (heparin binding epidermal growth factor - like growth factor)	5954.3	8837.6	1.5	1.48424
L10362	S34961	g3882191	AB018278	81	serotonin receptor	417.5	606.4	1.5	1.45246
L10669	AAA41253	XP_050619	XM_050619	94	Rattus norvegicus synaptic vesicle protein 2B (SV2B) mRNA, complete cds	957.1	1466.8	1.5	1.53255
L10669	AAA41253	XP_050619	XM_050619	79	glycogen phosphorylase	1122.8	1675.3	1.5	1.49207
L13619	A47112	O15503	U96876	84	glycogen phosphorylase	2267.9	3493.5	1.5	1.54041
L14684	AAA41107	NP_079272	NM_024996	82	Growth response protein (CL-6)	810.4	1190.5	1.5	1.46903
L14937	AAA41816	NP_002560	NM_002569	60	elongation factor G.	3620	5524.1	1.5	1.52599
					proprotein convertase 4.	682.4	1054.7	1.5	1.54557
						1199.3	1764.9	1.5	1.47161

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L23219	I56580	JW0050	AB010414	94	Guanine nucleotide binding protein (G protein), gamma 7 subunit	3491.4	5178.8	1.5	1.4833
L26525	AAA21089	XP_004559	XM_004559	80	tyrosine kinase receptor (Ptk-3) gene	1533.1	2245.4	1.5	1.46461
L34074	AAC37675	NP_149046	NM_033057	84	OL1 receptor	568.9	879.8	1.5	1.54649
L34821	P51650	g3766467	g3766467	88	Succinic semialdehyde dehydrogenase	452.9	930	1.5	2.05343
M11596	P10093	P06881	X15943	72	Rat beta-type calcitonin gene-related peptide mRNA, complete cds	2741.1	4206.6	1.5	1.53464
M15883	AAA40890	NP_009028	NM_007097	90	clathryn light chain (LCB2).	3715	5568.3	1.5	1.49887
M17527	1GP2	RGHU11	M17219	99	Guanine nucleotide binding protein, alpha inhibiting 1	957.7	1416.5	1.5	1.47906
M18416	AAA61927	NP_001955	NM_001964	72	nerve growth factor-induced protein.	1039	1560.5	1.5	1.50192
M23643	RHRTT	P20396	M63582	55	Thyrotropin releasing hormone	1425.1	2980.5	1.5	2.09143
M24104	1SFCA	P19065	AF135372	98	Vesicle-associated membrane protein (synaptobrevin 2)	8839.3	11107	1.5	1.25655
NM_012541	NP_036673	XP_044660	XM_044660	74	cytochrome P450	1082	1615.8	1.5	1.49335
M31178	KLRTB	S00234	X06661	98	Cerebellar Ca-binding protein, spot 35 protein	1341.9	2074.9	1.5	1.54624
M34238	AAA40889	NP_002496	NM_002505	55	CCAAT binding transcription factor-B subunit (CBF-B)	1331.3	2063.8	1.5	1.55021
M38566	AAB02287	NP_000775	NM_000784	70	cytochrome P450	631.7	951.6	1.5	1.50641
M64378	AAA41741	AAK95089	AF399604	70	Olfactory protein	1061.2	1620.4	1.5	1.52695
M64780	AAA40703	AAC39776	AF016903	77	agrin	2230.8	4258.7	1.5	1.90905
M64793	AAA42064	No human	No human						
M80550	AAA40682	BAA83012	AB028983	94	Rat salivary proline-rich protein (RP15)	879.8	1341.5	1.5	1.52478
M83143	P13721	P15907	X17247	80	adenylyl cyclase type II	3740.8	5662	1.5	1.51358
M83678	P35286	P51153	X75593	90	beta-galactoside-alpha 2,6-sialyltransferase	1393.7	2541.1	1.5	1.82328
M83679	AAA41995	XP_050525	XM_050525	52	RAB13	1474.4	3247.8	1.5	2.20279
M87786	AAA41369		No Human		RAB15	1187.3	1728.5	1.5	1.45582
M93669	S02180	A34174	M25756	80	Immunoglobulin light chain variable region	1503.8	2228.3	1.5	1.48178
M94287	AAA41718	AAH01883	BC001883	42	Secretogranin II	3027.8	4399.5	1.5	1.45304
M95567	A45493	I38994	U26425	92	Nopp140	3752.7	4182.7	1.5	1.11458
S42358	AAB22850	NP_055044	NM_014229	90	Rattus norvegicus phospholipase C beta-3 mRNA, partial cds	2124.7	3247.6	1.5	1.5285
S46785	P35859	P35858	M86826	77	GABA transporter; GAT-B	1545.5	2295	1.5	1.48496
S48190	AAB23958	NP_001607	NM_001616	90	Insulin-like growth factor binding protein complex acid-labile subunit	3015.1	4397.1	1.5	1.45836
					type II activin receptor; rActR-II	619.6	1477.3	1.5	2.38428

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X58631	PT0183	I78844	L36645		ESTs, Highly similar to PT0183 protein-tyrosine kinase [R.norvegicus]				
X59677	CAA42203	NP_003975	NM_003984	94	Rattus sp. cDNA for M2 gene (clone M2-798)	1818.4	1412.2	1.5	0.77662
X62325				88	R.rattus TcRValphaT48a2 mRNA for T cell receptor V-alpha J-alpha	5779.8	8769.1	1.5	1.5172
X68782	CAA44881	AAH09851	BC009851	59	Ig heavy chain VDJ-region CH1-CH2	2727.5	4169.2	1.5	1.52858
X78949	CAA55546	XP_032511	XM_032511	92	Prolyl 4-hydroxylase alpha subunit	921.2	1412	1.5	1.53278
X82445	CAA57825	CAB66659	AL136725	81	RnudC	2312.4	3355.6	1.5	1.45113
Y14706	CAA75008	NP_005284	NM_005293	70	putative G-protein coupled receptor	4491.4	6577.9	1.5	1.46455
Y17048	MCRT	NP_112482	NM_031205			4977.9	7491.4	1.5	1.50493
NM_008139	NP_032165	AAC50363	U40038	98	Rattus norvegicus mRNA for caldendrin	2113.6	3203.6	1.5	1.51571
Z11995	Q99068	P30533	M63959	94n	guanine nucleotide binding protein, alpha q polypeptide (Gnaq)	1173.8	1794.2	1.5	1.52854
					ALPHA-2-MACROGLOBULIN				
					RECEPTOR-ASSOCIATED PROTEIN				
					PRECURSOR				
Z12298	CAA78170	NP_001911	NM_001920	76	dermatan sulfate proteoglycan-II (decorin)	1072.7	2346.4	1.5	2.18738
Z68145	CAA92268	CAC51026	AJ318022	74	lambda-5	24967.7	37602.5	1.5	1.50605
AB017188	BAA32596	NP_002801	NM_002810	62	antisecretory factor	2343.2	2483.4	1.5	1.05983
Y17322				88	CDK103	5391.3	8075.4	1.5	1.49786
NM_008020	NP_032046	AAA36563	M75099	86	FK506 binding protein 2	275.9	642.2	1.5	2.32765
NM_011631	NP_035761	AAK74072	AY040226	90	tumor rejection antigen gp96 (Tra1)	3001.8	4062.5	1.4	1.35335
AA799442					Mus musculus 18 days embryo cDNA, RIKEN	6052.4	8526.1	1.4	1.40871
					Adenylate kinase 2 (Ak2)	1434.7	1983	1.4	1.38217
NM_030986	NP_112248	NP_001616	NM_001625	92	ribosomal protein S4.	707	974.7	1.4	1.37864
X14210	CAA32427	NP_000998	NM_001007	100	ESTs, Moderately similar to NUEM_HUMAN NADH-UBIQUINONE OXIDOREDUCTASE 39 KDA SUBUNIT	3727.8	5174	1.4	1.38795
AA799525	NP_079634	Q16795	L04490		PRECURSOR [H.sapiens]				
				83	Mus musculus RIKEN cDNA 9130413122 gene	4954.7	8915.8	1.4	1.79946
AA799550					ESTs, Weakly similar to S06147 GTP-binding protein rab1B [R.norvegicus]	13877.6	19345.2	1.4	1.39399
AA799551	S06147	O95755	AB023061	61	Mus musculus 18 days embryo cDNA, RIKEN	10159	14085.5	1.4	1.3865
AA799560					signal transducer and activator of transcription 2 (Stat2)	5503.2	9940.1	1.4	1.80624
NM_019963	NP_064347	NP_005410	NM_005419	67		961.8	1312.2	1.4	1.36432

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U52664	AAC05607	AAD01439	AF010472	88	peptidylglycine alpha-amidating monooxygenase precursor	AA799575	4238.6	8395.2	1.4	1.98065
AA799601					Mus musculus 11 days pregnant adult female ovary and uterus cDNA, RIKEN full-length enriched library, clone:5033430A12					
AA799607					Mus musculus, clone MGC:12159 IMAGE:3711169		457.9	649.7	1.4	1.41887
AA799645	O08589	O00168	U72245	80	FXVD domain-containing ion transport regulator 1		2835.8	3933.1	1.4	1.38695
AA799657					Mus musculus ERCC2 gene, genomic sequence		4441.8	8393.1	1.4	1.88957
NM_009087	NP_033113	NP_057056	NM_015972	82	RNA polymerase 1-3 (16 kDa subunit) (Rpo1-3),	AA799724	2232.7	3343.8	1.4	1.49765
NM_024488	NP_077814	XP_017042	XM_017042	82	CDK5 activator-binding protein C53 (C53)	AA799745	2635.6	3572.2	1.4	1.35537
AA799755	P15087	JC5256	D86479	84	ESTs, Weakly similar to CARBOXYPEPTIDASE H		1807.5	1520.3	1.4	0.84111
AF148216	AAG01898	AAA51851	M14058	80	PRECURSOR [R.norvegicus] serine protease	AA799803	2598	4393.8	1.4	1.69122
AA799971					Mus musculus adult male tongue cDNA, RIKEN		3194.3	4507.1	1.4	1.41098
AA800036		NP_055390	NM_014575	87n	Schwannomin-interacting protein 1 (SCHIP1)		1811	2957.8	1.4	1.63324
Z83868	CAB06294	NP_061120	NM_018650	87	serine/threonine kinase	AA800063	1391.2	2432.2	1.4	1.74827
X97831	CAA66410	NP_000378	NM_000387	85	carnitine/acylcarnitine carrier protein	AA800120	726	1049.3	1.4	1.44532
AA800168					EST (not recognized)		2126.6	2890.9	1.4	1.3594
AA800176		AAF71034	AF116609	84n	PRO0915	AA800176	1914.8	2761.5	1.4	1.44219
AA800198					Mus musculus adult male tongue cDNA, RIKEN		2992.6	4252.8	1.4	1.42111
NM_013006	NP_037138	NP_006321	NM_006330	86	Lysophospholipase (Lyp1a1)	AA800220	635.9	891.4	1.4	1.40179
AA800258					Mus musculus adult male tongue cDNA, RIKEN		1315.9	1787.1	1.4	1.35808
AA800318	B26423	ITHUC1	M13203	81	ESTs, Weakly similar to B26423 serine proteinase inhibitor 2.2 - rat [R.norvegicus]		3153.8	4264.9	1.4	1.35231
AA800622					EST (not recognized)		1585.5	2861.4	1.4	1.80473
AA800693					Mus musculus adult male tongue cDNA, RIKEN		448.1	621.8	1.4	1.38764
AA800731					Mus musculus 10 days embryo cDNA, RIKEN		866.2	1234.8	1.4	1.42554

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

AA800735	NP_063972	NP_054890	NM_014171	99	Mus musculus, clone IMAGE:3589533	702.7	1017.8	1.4	1.44844
AA800787	NP_062719	AAH02506	BC002506	96n	Mouse DNA sequence from clone RP23-193O17 on chromosome X	1952.6	2225.2	1.4	1.13961
AA800800	NP_062719	AAH02506	BC002506	96n	EST (not recognized)	3210.1	4540	1.4	1.41429
NM_019907	NP_062719	AAH02506	BC002506	96n	postsynaptic protein Cript (Cript), programmed cell death 10 (Pdcd10)	4606.3	7545.2	1.4	1.63802
NM_019745	SZ6050	JC4916	U43899	96	programmed cell death 10 (Pdcd10)	3523.4	4776.7	1.4	1.44521
AA849648	AAC52611	NP_003876	NM_003885	89	Ribosomal protein L21	1359.9	2781.2	1.4	1.35571
U50707	NP_080628	NP_005029	NM_005038	89	P35	2445.6	3372.2	1.4	2.04515
AA850781									1.37888
AA850940	P50878	P36578	L20868	87(mus)	Human peptidylprolyl isomerase D (Rat EST; mouse hypothetical protein)	1572.5	2259.3	1.4	1.43676
AA859577				92	Ribosomal protein L4	8308.7	11979.3	1.4	1.44178
AA859612					Mus musculus, clone IMAGE:3256954	1636.2	2345.8	1.4	1.43369
NM_018808	NP_061278	NP_006136	NM_006145		Rattus norvegicus mitochondrial genome	5626.4	8004.5	1.4	1.42267
NM_013217	NP_037349	XP_043645	XM_043645	86	DnaJ (Hsp40) homolog, subfamily B, member 1	2942.7	3986.4	1.4	1.35467
NM_015818	NP_056633	XP_017698	XM_017698	91	afadin (AF-6), heparan sulfate 6-O-sulfotransferase 1 (Hs6st1)	1332.1	1931.2	1.4	1.44974
AA859760				83n	EST(not recognised)	3308	2352.3	1.4	0.71109
AA859788					Mus musculus adult male brain cDNA, RIKEN	1397	1938.1	1.4	1.38733
AA859829					Homo sapiens cDNA FLJ12453 fs, clone NT2RM1000430	907.7	1248	1.4	1.3749
AA859919					Homo sapiens clone 015h12 My015 protein	2220.7	4847.4	1.4	2.18283
AF411216	AAL05859	AAH09758	BC009758	84	vacuole membrane protein 1	1403.7	1962.2	1.4	1.39788
AA860010					Mus musculus, Similar to cholinergic receptor, nicotinic, alpha polypeptide 2 (neuronal), clone MGC:18795 IMAGE:4193582,	1547.1	2090	1.4	1.35091
AA860057					Homo sapiens chromosome 5 clone CTC-352M6	1140.8	1580.2	1.4	1.38517
AA874889					Homo sapiens mRNA; cDNA DKFZp586D0918 (from clone DKFZp586D0918)	723.4	1045.8	1.4	1.44567
						1026.9	1418.3	1.4	1.38115

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D67015	BAA11034	XP_017163	XM_017163	96	Mouse mRNA for scg	AA874982	1248.6	1719.2	1.4	1.3769
AA875032					EST (not recognised)		470.3	672.4	1.4	1.42973
NM_009838	NP_033968	NP_001753	NM_001762	92	chaperonin subunit 6a (zeta) (Cct6a)	AA875047	2871.3	4115.6	1.4	1.43336
AA875143					Mus musculus adult male tongue cDNA, RIKEN		1216.2	1647.9	1.4	1.35496
AA875171		NP_115909	NM_032520	64	ESTs, Weakly similar to T45062 hypothetical protein c316G12.3 [H.sapiens]		1249.5	1734.2	1.4	1.38792
AA875253					Mus musculus adult male tongue cDNA, RIKEN		3389.3	3690.1	1.4	1.08875
NM_031841	NP_114029	XP_005719	XM_005719	83	stearoyl-CoA desaturase 2	AA875269	29994.5	40736.4	1.4	1.35813
AF140358	AAK98516	NP_004777	NM_004786	97n	thioredoxin-related protein; Trp	AA875390	2862.4	3994.5	1.4	1.39551
NM_019220	NP_062093	NP_001121	NM_001130	80	related to Drosophila groucho gene	AA875427	1054.6	568	1.4	0.53859
AA875506					M.musculus gMCK2alphaC pseudogene		1161.9	1857.9	1.4	1.59902
AA875633		S43202		61	Mus musculus 11 BAC RP23-362J7 RNA binding motif protein, X chromosome	AA875654	29161.2	39715.3	1.4	1.36192
NM_011252	NP_035382				EST (not recognized)		705.9	962.5	1.4	1.36351
AA891631					EST (not recognized)		2002	2724.8	1.4	1.36104
AA891677					EST (not recognized)		991.1	1389.2	1.4	1.40167
AA891724		XP_046863	XM_046863	89n	KIAA0699 protein		1061.5	772.7	1.4	0.72793
AA891734		XP_057638	XM_057638	94	EST (not recognised)		2447.6	4573.6	1.4	1.86861
AF212319	AAG43538				NADP+-specific isocitrate dehydrogenase	AA891785	3048.4	4397.2	1.4	1.44246
AF102149					Rattus norvegicus clone ZG52 mRNA sequence.	AA891824	1914.1	2673.3	1.4	1.39664
NM_022948	NP_075237	NP_112233	NM_030971	88	tricarboxylate carrier-like protein (Loc65042),	AA891880	3530.1	4795.4	1.4	1.35843
AA891891		XP_029081	XM_029081	90n	Topoisomerase-related function protein 4-1		777.7	1575.1	1.4	2.02533
AA891902					Mus musculus, clone IMAGE:3585632		1511.3	2052.6	1.4	1.35817
AA891950					Mus musculus adult male stomach cDNA, RIKEN		1141.6	1826.2	1.4	1.59968
AA892154	NP_037292	NP_006445	NM_006454	50	Mad4 homolog (human)		816.6	1105.9	1.4	1.35427
AA892179		XP_040360	XM_040360	89	Similar to chromosome 6 open reading frame 5		1903.1	1518.2	1.4	0.79775
NM_009357	NP_033383			93n	testis expressed gene 261	AA892260	1572.2	2216.4	1.4	1.40974
NM_017470	NP_059498	NP_005731	NM_005740	91n	dynein, axon, light chain 4	AA892303	1478.4	2123.8	1.4	1.43655
AA892378		XP_051242	XM_051242	89n	ESTs, Highly similar to AF151893 1 CGI 135 protein [H.sapiens]		2138	2920.9	1.4	1.36618

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AA892414	AAF14345	AAD38322	AF047033	85n	Sodium bicarbonate cotransporter 3 (SLC4A7)	2601	3638.1	1.4	1.39873
AA892417					Mus musculus adult male tongue cDNA, RIKEN	1483.7	1620.7	1.4	1.09234
AB019577	BAA77341	NP_055498	NM_014683	81	UNC-51-like kinase (ULK) 2	416	591.6	1.4	1.42212
AA892520					EST(not recognised)	2758.2	3798.6	1.4	1.3772
AA892868					EST(not recognised)	2071.3	3629.3	1.4	1.75218
AA892942					EST (not recognized)	857	1214.2	1.4	1.4168
AA892959					Mus musculus 10 days embryo cDNA, RIKEN	663.5	1491.8	1.4	2.24838
AA892999					EST(not recognised)	1739.2	2435.3	1.4	1.40024
AA893002					EST (not recognized)	3711.8	3440	1.4	0.92677
AA893032					EST (not recognized)	1884.9	2348.2	1.4	1.39367
AA893040					EST (not recognized)	473.3	662.2	1.4	1.39911
AA893043					EST(not recognised)	460.3	627.1	1.4	1.36237
AF133093					Mus musculus X chromosome	5228.1	7543.5	1.4	1.44288
AA893164					AA893127				
AA893183		XP_017866	XM_017866		Mus musculus, clone IMAGE:3709937	3695	5254.4	1.4	1.42203
AA893217				84n	Homo sapiens hypothetical protein FLJ12529	1043.1	1504.5	1.4	1.44234
AA893320					Human DNA sequence from clone RP11-65K20	5948.9	8398.5	1.4	1.41177
AA893320					EST(not recognised)	1919.6	2702.4	1.4	1.40779
AA893454					EST(not recognised)	1657.3	2363.2	1.4	1.42593
AA893581					Mus musculus RIKEN cDNA 2310004K06	6525.6	9347.2	1.4	1.43239
AA893596	AK016067	AAH03542	BC003542	93(mus)	Mouse RIKEN full-length cDNA	723.4	506.4	1.4	0.70003
AA893659					Homo sapiens cDNA FLJ20789 fis, clone COL01731	1576	2264.6	1.4	1.43693
NM_009183	NP_033209	NP_005659	NM_005668	87n	sialyltransferase 8 (alpha-2, 8-sialyltransferase) D (Siat8d)	461.4	648.9	1.4	1.40637
AA893664					Homo sapiens BAC clone RP11-334F17	838	1165.9	1.4	1.39129
AA893683					Mus musculus, clone IMAGE:3708747	2571.5	3589.4	1.4	1.39584
NM_019435	NP_062308	NP_061929	NM_019056	79	neuronal protein 15.6 (Np15.6-pending capping protein (actin filament), gelsolin-like	2481.3	3351	1.4	1.3505
NM_007599	NP_031625	NP_001738	NM_001747	89	AA894004	3906.2	5350.2	1.4	1.36967
AA894086					Mus musculus, Similar to CG6769 gene product, clone MGC:6955	679.9	939.9	1.4	1.38241

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AA894165	AAA41130	P13804	J04058		Mus musculus 10 days embryo cDNA, RIKEN	821.2	1183.8	1.4	1.44155
AA894174				93	Rat electron transfer flavoprotein (ETF) alpha-subunit DNA, 3' end	2002	2739.3	1.4	1.36828
AA894189					EST (not recognized)	1167.3	1279.5	1.4	1.09612
AA894207		XP_043679	XM_043679	94n	Homo sapiens KIAA1096 protein (KIAA1096), mRNA.	10168.8	14478.1	1.4	1.42378
NM_022542	NP_071987	NP_004031	NM_004040	93n	rhoB gene (Arhb),	4065.2	5646.6	1.4	1.38901
AA924909	A41144	JN0503	D11428	86	Peripheral myelin protein	5420.5	7438.8	1.4	1.37235
Y09164	CAA70364	XP_008249	XM_008249	42	sodium channel	11864.2	16609.9	1.4	1.4
NM_031621	NP_113809	XP_007014	XM_007014	71	linker of T-cell receptor pathways	1924.3	2659.1	1.4	1.38185
NM_022596	NP_072118	XP_005661	XM_005661	60	cis-Golgi matrix protein GM130	3370.4	4642.4	1.4	1.3774
X14876	CAA33017	NP_000362	NM_000371	76	transthyretin	538.6	745.4	1.4	1.38396
AA955983		NP_002404	NM_002413		microsomal glutathione S-transferase 2 (MGST2),	5263.7	7224.5	1.4	1.37251
AA963857	P13265	P51654	U50410	81n	Glypican 3	619.2	867.1	1.4	1.40036
NM_017182	NP_058878	NP_004884	NM_004893	94					
NM_031731	NP_113919	XP_045058	XM_045058	89	H2A histone family, member Y (H2afy)	211.2	821.3	1.4	3.88873
NM_016999	NP_058695	NP_000769	NM_000778	84	alcohol dehydrogenase family 3, subfamily A2 [1739.6	2403.1	1.4	1.38141
U25684	AAB37101	NP_068832	NM_021992	74	Cytochrome P450,	2222	3207.4	1.4	1.44347
AB000491	BAA22933	NP_002796	NM_002805	60	thymosin beta-like protein	557.6	931.6	1.4	1.67073
AB000517	BAA22085	XP_003308	XM_003308	92	proteasome p45/SUG	6617	9023.1	1.4	1.36362
AB001347	BAA32473	XP_006487	XM_006487	86	CDP-diacylglycerol synthase	1827.5	2638.4	1.4	1.44372
AB003515	BAA19975	NP_009216	NP_007285	86	brain beta 3 spectrin	7267.8	10367.5	1.4	1.4265
AB003726	BAA21671	NP_004263	NM_004272	100	GEF-2	10836	16139.9	1.4	1.48947
AB003992	BAA20152	NP_003072	NM_003081	99	Vesl	578.9	991.5	1.4	1.71273
AB004276	BAA20359	NP_061743	NM_018920	100	SNAP-25B	10026.5	16742.5	1.4	1.66982
AB005549	BAA34216	XP_005858	XM_005858	66	protocadherin 4	953.7	1309	1.4	1.37255
AB006914	BAA22191	NP_004231	NM_004240	76	atypical PKC specific binding protein	544.3	750.5	1.4	1.37884
AB009999	BAA28787	XP_003308	XM_003308	78	salt-tolerant protein	1555.4	2446.2	1.4	1.57271
				88	CDP-diacylglycerol synthase, (18 on d.s.)	3410.4	4106.2	1.4	1.20402
AB010467	BAA28955	AAD01430	AF009670		Rattus norvegicus mRNA for multidrug resistance-associated protein (MRP)-like protein-2 (MLP-2), complete cds	484.8	681.2	1.4	1.40512
AB012759	BAA25544	NP_002717	NM_002726	78	prolyl endopeptidase	2221.7	3015.8	1.4	1.35743
AB012933	O88813	JX0202	D10040	95	Acyl-CoA synthetase 5	2468	3484.1	1.4	1.41171
				62					

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AB013454	R5RT17	R5HU22	X53777	ASI mRNA for mammalian equivalent of bacterial large ribosomal subunit protein L22					
AB015191	BAA32440	CAB09722	Z97026	99		1063.8	2016.5	1.4	1.89556
AB017655	BAA36838	NP_000730	NM_000739	52	Rh blood group protein	649.4	2558.5	1.4	3.93979
AB017912	BAA33453	NP_005892	NM_005901	90	Muscarinic receptor m2	1339.1	1871.8	1.4	1.3978
AF016387	AAD01591	NP_008848	NM_006917	89	Smad2 protein	2240	3049	1.4	1.36116
AF019974	AAB72089	XP_045588	XM_045588	97	retinoid X receptor gamma (RXRgamma)	2638.2	3702.6	1.4	1.40346
AF022083	AAB82550	AAC78794	AF033356	50	chromogranin B	3649.5	4455	1.4	1.22072
AF022819	AAD09336	XP_001674	XM_001674	100	guanine nucleotide binding protein beta 1 subunit	1130.8	1825.9	1.4	1.6147
AF026504	AAB81526	AAC83179	AC004974	76	Rattus norvegicus putative potassium channel TWIK mRNA	4271.6	4342.1	1.4	1.0165
AF034582	AAD01990	BAA74928	AB020712	81	SPA-1 like protein p1294	534.2	770.5	1.4	1.44234
AF034897	AAC17221	NP_039229	NM_013941	79	Vesicle associated protein (VAP1)	2517.4	3478.9	1.4	1.38194
AF034899	JC5836	Q15062	L35475	57	olfactory receptor-like protein	506.9	714.7	1.4	1.40994
AF036761	AAB88865	AAD29870	AF097514	44	Olfactory receptor-like protein (SCR D-9)	678.5	689.8	1.4	1.01665
AF044058	AAD13349	AAC36704	AF077953	92	stearoyl-CoA desaturase 2	17628	25494.1	1.4	1.44623
AF053312	P97884	P78556	U77035	89	androgen receptor interacting protein; ARIP	1915.1	2614.5	1.4	1.3652
AF061242	Q9R1B1	Q9Y5J6	AF152355	61	Small inducible cytokine subfamily A20	465.4	655.9	1.4	1.40933
AF074608	AAC33331	no human		92	Fracture callus 1	963.4	1349.7	1.4	1.40098
AF080435	AAC77925	XP_011833	XM_011833	72	MHC class I antigen	6551.3	11434	1.4	1.7453
AF091563	AAC64586	AAG45205	AF321237	49	phosducin-like protein	1641.3	2974.2	1.4	1.8121
AF091572	AAC64593	CAA46127	X64994	60	Isolate QIL-LD1 olfactory receptor mRNA	1138.1	1568	1.4	1.37773
AF091834	AAC61595	NP_006169	NM_006178	60	olfactory receptor	1524.5	2081.6	1.4	1.36543
AF093569	AAD03032	CAB83215	AJ251760	100	N-ethylmaleimide sensitive factor NSF	2468.9	3525.3	1.4	1.42788
AF095576	AAC64408	BAA22514	AB000520	52	XLas protein	1388.7	1944.8	1.4	1.40045
AF095927	AAC97497	NP_110395	NM_030768	85n	APS protein	1296.6	1864.4	1.4	1.43791
AF096291	1AF3	Q92843	U59747	87	Protein phosphatase 2C	2277.7	3138.7	1.4	1.37801
AF104362	AAD04570	NP_005005	NM_005014	98	APOPTOSIS REGULATOR BCL-W	1968.2	2694.5	1.4	1.36902
M26594	AAA41563	AAB01380	L34035	75	osteoadherin	917.1	1283.5	1.4	1.39952
NM_019275	NP_062148	NP_005350	NM_005359	88	cytosolic malic enzyme	2527.9	3554.4	1.4	1.40607
NM_012839	NP_036971	NP_061820	NM_018947	90	MAD homolog 4	968.6	1382.1	1.4	1.4269
				91	Cytochrome C, expressed in somatic tissues	1585.2	2249	1.4	1.41875

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NM_022519	NP_071964	NM_000295	NP_000286	66	alpha-1-protease inhibitor	AI010453	1331.3	870.9	1.4	0.65417
NM_031151	NP_112413	NP_005909	NM_005918	89	malate dehydrogenase mitochondrial	AI010480	17460.9	24655.1	1.4	1.41202
NM_031624	NP_113812	NP_001542	NM_001551	77	immunoglobulin (CD79A) binding protein 1	AI011179	1126	1532.1	1.4	1.36066
NM_020075	NP_064460	NP_001960	NM_001969	80	eukaryotic initiation factor 5 (eIF-5)	AI012604	4609.9	6446.5	1.4	1.3984
NM_022713	NP_073204	NP_003232	NM_003241	52	dorsal protein 1	AI013795	533.1	759.9	1.4	1.42544
NM_022585	NP_072107	XP_005226	XM_005226	93	ornithine decarboxylase antizyme inhibitor	AI043631	474.3	914	1.4	1.92705
U89744	AAB49894	XP_003025	XM_003025	50	putative cell surface antigen	AI044259	241.9	4190.2	1.4	17.322
AI044423	P41276	P40616	L28997	98	ADP-ribosylation factor-like 1		4188	3244.2	1.4	0.77464
AF144731	AAD55973	NP_073739	NM_022828	48	putative splicing factor YT521-B	AI044739	638.3	865.7	1.4	1.35626
NM_030990	NP_112252	NP_000524	NM_000533	100	proteolipid protein	AI070277	18303.8	24903.5	1.4	1.36056
AI070521	P18395	BAA74908	AB020692	98	Rat unr mRNA for unr protein with unknown function		7164.2	9859.6	1.4	1.37623
M75146		XP_056547	XM_056547	99n	kinesin light chain A	AI073056	33123.6	45656.3	1.4	1.37836
AI073204	P42655	I38947	U20972							
Y17323					Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, epsilon polypeptide		4345.6	7317.8	1.4	1.68396
NM_031984	NP_114190	NP_004920	NM_004929	98	CDK109	AI102044	27614.4	37985.9	1.4	1.37558
J01436	AAA99907		no human	91	cerebellar Ca-binding protein, spot 35 protein; calbindin D28	AI102839	1155.2	1964.9	1.4	1.70092
AI103874					cytochrome B gene	AI103396	164178	235960.7	1.4	1.43722
AI104389	1TOH	I55282	M20912	88	Mus musculus 6 days neonate head cDNA, RIKEN		2273	3115.8	1.4	1.37079
AI104544	R4RT17	R4HU17	M13641	97	Tyrosine hydroxylase		1179.9	1701.9	1.4	1.44241
NM_022936	NP_075225	XP_005114	XM_005114	71	Ribosomal protein S17		13022.3	18005.7	1.4	1.38268
AI105463					cytosolic epoxide hydrolase	AI104882	3613	5149.4	1.4	1.42524
AI112237					Mus musculus adult male kidney cDNA, RIKEN		1733.5	2436.5	1.4	1.40554
NM_012637	NP_036769	NP_002818	NM_002827	81	Mus musculus ES cells cDNA, RIKEN		11011.2	14890.2	1.4	1.35228
NM_017172	NP_058868	NP_004917	NM_004926	78	protein-tyrosine phosphatase	AI112391	2560.2	3597.8	1.4	1.40528
M69056	AAA41176	NP_002019	NM_002028	94	butyrate response factor 1	AI112516	4385.4	6030.9	1.4	1.37522
M36589	AAA41697	XP_002122	XM_002122	86	farnesyl-protein transferase beta-subunit	AI136396	20	1391.8	1.4	69.59
AI170379		CAC38839	AJ303079	89n	beta-nerve growth factor	AI137043	884.4	1213.2	1.4	1.37178
AI171268					AKAP-2		1834.2	2546.9	1.4	1.38856
					Mus musculus adult male kidney cDNA, RIKEN		5236.5	7290.7	1.4	1.39228
AB033713	BAA85626		no human		cytochrome b	AI171355	73530.7	102008.7	1.4	1.38729

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NM_017005 AI175208	NP_058701	XP_050665	XM_050665	90	fumarate hydratase Mus musculus 10, 11 days embryo cDNA, RIKEN	AI171734	862.1	1168.6	1.4	1.35553
X17215	CAA35084	NP_002219	NM_002228	78	c-jun protein (AA 1-334)	AI175959	1077.1	1486.7	1.4	1.38028
NM_009861 AI176422	NP_033991	NP_001782	NM_001791	100	cell division cycle 42 homolog	AI176308	2490.2	3506.2	1.4	1.408
		NP_004444	NM_004453		ESTs, Highly similar to 2006241A flavoprotein ubiquinone oxidoreductase [H.sapiens]		7113.2	9881.9	1.4	1.38923
X00722				92	Rat 32S pre-rRNA 5'-terminal part with 28S rRNA sequence		1239.1	1789.3	1.4	1.44403
NM_012505	NP_036637	BAA34498	AB018321		ATPase, Na+K+ transporting, alpha 2 polypeptide	AI176460	4677.5	7730.4	1.4	1.65268
NM_020075 AI178204	NP_064460	NP_001960	NM_001969	99	eukaryotic initiation factor 5 (eIF-5)	AI177026	3806.4	5488.9	1.4	1.44202
NM_031643	NP_113831	NP_002746	NM_002755	80	EST (not recognized)	AI177986	1464.8	1993	1.4	1.3606
					mitogen activated protein kinase kinase 2		1091.8	1530.8	1.4	1.40209
AI178921	P35559	P14735	M21188	90	Insulin degrading enzyme	AI178835	980.2	1357.2	1.4	1.38462
NM_031094 AI230294	NP_112356	CAA53661	X76061	94	retinoblastoma-like 2 (p130)		967.3	1627.6	1.4	1.68262
				81	Human DNA sequence from clone 109F14 on chromosome 6p21.2-21.3	AI227715	1690.3	2338.8	1.4	1.38366
NM_010241 AI232321	NP_034371	NP_071921	NM_022476	96	fused toes	AI230602	870.6	1252.6	1.4	1.43878
					Mus musculus 13 days embryo liver cDNA, RIKEN		4003.1	4976.6	1.4	1.24319
X77953 U30789	CAA54918	NP_001010	NM_001019	100	ribosomal protein S15a	AI235364	4300.9	5972.8	1.4	1.38873
NM_012598 AI638969	NP_036730	NP_000228	NM_000237	89	Rattus norvegicus clone N27 mRNA lipoprotein lipase	AI237654	18522.2	28991	1.4	1.5652
AI639032					EST(not recognised)		2215.6	3101.5	1.4	1.39985
AI639048					EST(not recognised)	AI237731	706	957	1.4	1.35552
					Human chromosome 14 DNA sequence BAC C-3028N15 of library CalTech-D		620.2	887.1	1.4	1.43035
AI639058					Mus musculus adult male stomach cDNA, RIKEN		672.3	955.1	1.4	1.42065
AI639076 AI639101					EST (not recognized)		470.5	646.6	1.4	1.37428
AI639114 AI639120					Rattus norvegicus clone RP31-162L19 EST(not recognised)		21805.9	30137.6	1.4	1.38208
NM_007391 AI639203	NP_031417	XP_006244	XM_006244	71	EST (not recognized) acrosomal vesicle protein 1 (Acrv1) EST(not recognised)	AI639153	355400.3	507743.3	1.4	1.42865
							1130.6	983.8	1.4	0.87016
							616.4	876.1	1.4	1.42132
							10972.5	15549.4	1.4	1.41712
							2092.3	2982	1.4	1.42523
							1231.8	1963.3	1.4	1.59385

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AI639247	AAG49397	AY009106	80	EST, Moderately similar to T17296 hypothetical protein DKFZp434l092.1 [H.sapiens]	2704.5	4663.8	1.4	1.72446
AJ299016	NP_065680	NM_020629	83	receptor tyrosine kinase	4404.7	6215.1	1.4	1.41102
AJ131777	NP_006739	NM_006748	79	src-like adaptor protein	1153.4	1578.7	1.4	1.36874
AI639343	NP_002660	NM_002669	96	EST (not recognized)	298	535.9	1.4	1.79832
AF128241	NP_002660	NM_002669	96	pleiotropic regulator 1	1944	2726.9	1.4	1.40273
AI639394	XP_001278	XM_001278	85n	EST(not recognised)	444.9	682.2	1.4	1.53338
NM_017131	XP_001278	XM_001278	85n	Homo sapiens calsequestrin 1 (fast-twitch, skeletal muscle)	3112.3	4343.8	1.4	1.39569
AI639489	NP_003828	NM_003837	95	Mus musculus 11 days embryo cDNA, RIKEN	966.6	1312.1	1.4	1.35744
AI639516	NP_001339	NM_001348	72	EST (not recognized)	2708.7	3761.8	1.4	1.38878
AI639524	XP_028848	XM_028848	72	EST(not recognised)	1058.1	1502.6	1.4	1.42009
AJ005046	CAA06313	NP_003828	95	Rattus norvegicus mRNA for muscle fructose-1,6-bisphosphatase	1520.1	2114.1	1.4	1.39076
AJ006971	CAA07360	NP_001339	72	DAP-like kinase	3269.1	4511	1.4	1.37989
D00729	BAA00629	XP_028848	72	Delta3, delta2-enoyl-CoA isomerase; SEVERAL EXONS; ONLY 1 & 2 LISTED ON THIS SHEET	1053.9	954.6	1.4	0.90578
D10392	1HVV	Q16623	97	Syntaxin A	2966.7	4227.8	1.4	1.42509
D10655	BAA01504	P10515	79	Dihydrolipoamide acetyltransferase	5595.8	7978.2	1.4	1.42575
D10755	BAA01587	XP_046642	100	proteasome subunit R-IOTA	12167.3	16446.5	1.4	1.3517
D10756	BAA01588	XP_042737	98	proteasome subunit R-ZETA	3615.3	5690	1.4	1.57387
D10757	BAA01589	NP_002791	63	proteasome subunit R-RING12	407.6	567.9	1.4	1.39328
D10938	BAA01732	XP_006027	91	brain-derived neurotrophic factor (BDNF)	1155.4	1440.4	1.4	1.24667
D13125	BAA02427	NP_057341	98	neural visinin-like Ca2+-binding protein type 2	1723.9	2495.5	1.4	1.44759
D13556	BAA02754	No Human	91	T cell receptor eta chain	1163.9	1599.1	1.4	1.37392
D14048	BAA03136	BC007950	91	SP120	2882.7	4087.2	1.4	1.41784
D26439	BAA05455	NP_001757	61	CD1 antigen precursor	929.1	1299.4	1.4	1.39856
D26564	BAA05618	NP_058022	84	Rattus norvegicus mRNA, similar to cdc37	6693.3	9698.9	1.4	1.44905
D30040	BAA06279	XP_015191	98	RAC protein kinase alpha	5684.1	7764.5	1.4	1.366
D30735	BAA06399	CAB87993	85	augmenter of liver regeneration	717.5	1021	1.4	1.423
D30739	BAA06401	NP_003397	99	mitochondrial import stimulation factor (MSF) L subunit	13430.4	18133.8	1.4	1.35021
D42148	BAA07719	NP_000811	79	growth potentiating factor	4732.6	6507.4	1.4	1.37502
D43778	BAA07833	AAA50762	72	angiotensin II type 2 receptor	808.4	1297.8	1.4	1.60539

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D45187	BAA08128	NP_001901	NM_001910	84	cathepsin E precursor	931.9	1318.5	1.4	1.41485
D49955	BAA08710	XP_003594	XM_003594	78	Rat mRNA for bone marrow stromal cell antigen 1 (BST-1)	1845.1	2761.7	1.4	1.49678
D50436	BAA08927	NP_004100	NM_004109	81	adenodoxin	1347.3	2417.4	1.4	1.79426
D50696	BAA09341	NP_002793	NM_002802	92	proteasomal ATPase (S4)	6848.2	9796.2	1.4	1.43048
D78591	BAA11427	NP_001321	NM_001330	73	cardiotrophin-1	2141.1	2975.4	1.4	1.38966
D83948	g1514971	g1469167	D50912	92	S1-1 protein from liver	2535	2471.5	1.4	0.97495
D85189	g2392023	g3158351	AF030555	97	Acyl-CoA synthetase (36 on d.s.)	418.8	708.9	1.4	1.69269
D86557	BAA19880	NP_065172	NM_020439	98	Protein Kinase	1043.1	1488.5	1.4	1.427
D87840	BAA25260	XP_054716	XM_054716	54	Madcam 1	4245.9	5759.6	1.4	1.35651
D88586	P70709	P12724	X15161	55	Rat mRNA for eosinophil cationic protein	5534.2	7523.5	1.4	1.35946
D88672	g2723386	g2781436	AF035483	89	Phospholipase D	739	1056.3	1.4	1.42936
D89514	BAA22837	BAA11559	D82348		5-aminimidazole-4-carboxamide ribonucleotide formyltransferase/IMP cyclohydrolase				
D89730	O35568	NP_004096	NM_004105	91	EGF-CONTAINING FIBULIN-LIKE EXTRACELLULAR MATRIX PROTEIN 1 PRECURSOR (FIBULIN-3) (FIBL-3) (T16 PROTEIN)	2210.1	3888.7	1.4	1.75951
D89983	BAA23594	XP_005226	XM_005226	91	antizyme inhibitor	2898.6	4009.3	1.4	1.38318
D90265	BAA14312	NP_002777	NM_002786	93	proteasome subunit C2	3259.8	4567.3	1.4	1.4011
NM_031154	NP_112416	NP_000839	NM_000848	97	glutathione S-transferase, mu type 3 (Yb3)	1817.8	3336.1	1.4	1.83524
X13933	CAA32120	AAH08437	BC008437	84	calmodulin (pRCM1).	4329.1	5994.2	1.4	1.38463
NM_052809	NP_434696	NP_001792	NM_001801	99	cytosolic cysteine dioxygenase 1 (Cdo1),	70790.7	99823.5	1.4	1.41012
D87671	BAA13432	NP_060918	NM_018448	92	TIP120	1560.7	2161.8	1.4	1.38515
H31128				94	EST(not recognised)	2654.7	3758.5	1.4	1.41579
H31351					EST(not recognised)	2572.1	3648	1.4	1.4183
H31456					EST(not recognised)	1022	1420.7	1.4	1.39012
H31535					Mus musculus 10 days embryo cDNA, RIKEN	3231.1	4533.7	1.4	1.40314
H31550					Homo sapiens BAC clone RP11-152F13 carboxypeptidase a precursor	4411.4	6152.3	1.4	1.39464
J00713	AAA40893	AAH05279	BC005279	83	IgE binding protein	4781	6690.1	1.4	1.39931
J02962	AAA40828	AAA35607	M57710	83	(Na ⁺ , K ⁺)-ATPase-beta-2 subunit.	1887.2	1058.4	1.4	0.56083
J04629	AAA40782	XP_008232	XM_008232	97	Acyl Coenzyme A dehydrogenase, long chain	6706.6	11005.2	1.4	1.64095
J05029	AAA40668	NP_001599	NM_001608	87		1821.4	2633.6	1.4	1.44592
						3860.1	6694.2	1.4	1.7342

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J05035	AAA42102	NP_001038	NM_001047	63	Steroid 5 alpha-reductase		956.8	1371	1.4	1.4329
J05499	P28492	g4240165	AB020645	76	L-glutamine amidohydrolase		756.7	1375	1.4	1.8171
K02816	AAA41758	NP_006704	NM_006713	66	pR-ET2 encoded oncodevelopmental protein (putative); putative.		9830.9	14225	1.4	1.44697
NM_031043	NP_112305	NP_004121	NM_004130	83	glycogenin	L01793	7189.3	8611.9	1.4	1.19788
L02530	AAA41172	NP_001457	NM_001466	94	Drosophila polarity gene (frizzled) homologue		3292	3736.4	1.4	1.13499
L02896	P35053	P35052	X54232	88	Glypican 1		8120.6	11136.1	1.4	1.37134
L07380	NP_036982	XP_030066	XM_030066	79	Growth hormone-releasing factor receptor (16 on d.s.)		3007.6	4107.2	1.4	1.36561
L12382	P16587	P16587	M33384	100	ADP-ribosylation factor 3		2763.6	3824.4	1.4	1.38385
L13202	AAA41319	NP_036315	NM_012183	100	HNF-3/fork-head homolog-2 [Rattus norvegicus] Blink		3557.5	4818.8	1.4	1.35455
L14002					Polymetric immunoglobulin receptor AATTAA-containing 3'UTR mRNA sequence		1206.4	1694.6	1.4	1.40468
L14462	AAC37639	AAC72103	AC005944	80	R-esp1		13161.7	17788.5	1.4	1.35154
L14463	AAC37640	XP_042357	XM_042357	79	transducin		1216.3	1696	1.4	1.39439
L18889	AAA21015	NP_001737	NM_001746	81	calnexin		9848.5	13812.1	1.4	1.40246
L19699	P36860	P11234	M35416	95	Rat GTP-binding protein (ral B) mRNA, complete cds		1676.3	2384.9	1.4	1.42272
L19998	AAA41644	I57945	L19999	74	Minoxidil sulfotransferase		6172.8	8657.8	1.4	1.40257
L21711	AAA65445	XP_039888	XM_039888	70	Galectin-5		634.8	1845	1.4	2.90643
L23148	P41135	JC5396	U57645	90	Inhibitor of DNA binding 1, helix-loop-helix protein (splice variation)		1818.2	2597.6	1.4	1.42867
L24776	OKRTCB	OKHUCB	M34181							
L26268	AAA85779	NP_001722	NM_001731	91	Tropomyosin non-muscle isoform NM3 (TPM-gamma) mRNA, complete cds		2548.9	3473.6	1.4	1.36278
AF390546	AAK73355	XP_047516	XM_047516	99	BTG1; B cell translocation gene		2944.8	4121.7	1.4	1.39965
L27124	AAA21818	AAL15441	AY049784	78	gut-enriched kruppel-like factor	L26292	962.2	1393.3	1.4	1.44804
L27663	A56493	P10586	Y00815	85	NRD convertase		1648.4	2301.4	1.4	1.39614
L29573	I59558	1707305A	M65105	96	POU domain, class 3, transcription factor 2		868.9	779.4	1.4	0.897
L33869	AAA40917	NP_000087	NM_000096	88	Solute carrier family 6 (neurotransmitter transporter,noradrenalin), member 2		1776.7	2453.1	1.4	1.38071
L38483	AAB06509	NP_002217	NM_002226	82	Ceruloplasmin		1839.2	2507.9	1.4	1.36358
L39018	AAC42059	XP_008249	XM_008249	54	Jagged 1		905	1227	1.4	1.3558
M13979	AAA41248	XP_046330	XM_046330	63	Sodium channel protein 6		1359.2	1932.2	1.4	1.42157
				91	glucose-transporter protein		2408.8	4866	1.4	2.02009

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M14656	AAA41762	XP_011125	XM_011125	51	osteopontin	23836	32421.6	1.4	1.36019
M15474	AAA21801	NP_000357	NM_000366	81	Alpha-tropomyosin gene	7266.7	10892.2	1.4	1.49892
M17960					insulin-like growth factor II (IGFII)	4025.6	5511.7	1.4	1.36916
M19357	AAA40988	NP_008822	NM_006891	76	Rat gamma-F-crystallin (gamma 4-1) gene, complete cds	1039.3	1503.1	1.4	1.44626
M20721	AAA41950		no human		proline-rich protein	1297.8	1847.7	1.4	1.42372
M22631	AAA88512	NP_000273	NM_000282	89	alpha-propionyl-CoA carboxylase	839.3	1146.1	1.4	1.36554
M22993	AAA79025	NP_002855	NM_002864	60	alpha-1-inhibitor III.	932.6	1325.4	1.4	1.42119
M23264	AAA40759	NP_000035	NM_000044	75	androgen receptor	952.3	1368.3	1.4	1.43684
M23601	AAA41566	NP_000889	NM_000898	83	monoamine oxidase B.	3465.1	4844.6	1.4	1.39811
M23995	AAA40718	P00352	M31994	78	Aldehyde dehydrogenase mRNA, complete cds	4246.9	5755.3	1.4	1.35518
M24104	1SFCA	P19065	AF135372	98	Vesicle-associated membrane protein (synaptobrevin 2)	12034.5	16919.7	1.4	1.40593
M24604					Acc # not recognised	2077.1	2864.2	1.4	1.37894
M24852	AAA41828	AAC00024	U53707	96	neuron-specific protein PEP-19.	13735.2	19867.3	1.4	1.44645
M25350	AAA41846	AAA03589	L20966	96	cAMP phosphodiesterase	546.2	749.4	1.4	1.37202
M25888	AAA41888	NP_000524	NM_000533	100	lipophilin	11803.8	17104.3	1.4	1.44905
M26125	AAA42350	XP_001799	XM_001799	84	epoxide hydrolase	3899.3	5401.4	1.4	1.38522
M26643	AAA41682	XP_008249	XM_008249	83	voltage-sensitive sodium channel alpha subunit.	503.2	681.2	1.4	1.35374
M26686	P22062	P22061	M93008	95	Protein-L-isoaspartate (D-aspartate) O-methyltransferase	4632.1	6554.6	1.4	1.41504
M27293	AAA41384	NP_000866	NM_000875	94	Insulin-like growth factor-I receptor (IGF-I)	2433.3	3484.3	1.4	1.43192
M26837	AAA40641		no human		alpha-2-u globulin	653.9	919	1.4	1.40541
M27812	AAA42145	XP_013120	XM_013120	64	Synapsin Ia mRNA	3797.2	6451.3	1.4	1.69896
M33025	AAA41810	NP_002815	NM_002824	88	parathymosin	4899.4	6813.4	1.4	1.39066
M33329	AAA42183	AAB23169	S43859	59	hydroxysteroid sulfotransferase a (STa). NADH-dehydrogenase (NDI) (att start codon).	652.9	1218.9	1.4	1.8669
M35826	AAA68204		no human		Cathepsin H	97984.1	135553.8	1.4	1.38343
M38135	KHRTH	KHHUH	X16832	82	nucleolin	3269.1	4448.2	1.4	1.36068
M55015	AAA41732	XP_048741	XM_048741	73	S6 kinase	8965.9	12292.1	1.4	1.37098
M57428	TVRTK6	P23443	M60724	99	histidase	1719.5	2450.6	1.4	1.42518
M58308	AAA63491	NP_002099	NM_002108	92	dihydropyridine-sensitive calcium channel alpha-1 subunit	948.5	1312.8	1.4	1.38408
M59786	AAA85463	CAA84341	Z34810	85	60 kDa protein	3584.9	6317.5	1.4	1.76225
M62763	AAA40622	XP_038856	XM_038856	84		2476.5	2982.8	1.4	1.20444

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M63656	AAA40717	NP_005156	NM_005165	96	aldolase C.	26309.1	36943.5	1.4	1.40421
M64301	B40033	Q16659	X80692	97	Mitogen-activated protein kinase 6	2741.4	3119.6	1.4	1.13796
M64376	P23265	g3290001	AC005255	73	Rat olfactory protein	1080.5	1468.2	1.4	1.35882
M65149	AAA40913	NP_005186	NM_005195	81	CELF	1374.7	2363.8	1.4	1.7195
M74223	I56530	g5630085	XM_004826	86	VEGF nerve growth factor inducible	3085.9	4335.8	1.4	1.40504
M75153	AAA42012	NP_004654	NM_004563	100	RAB11a, member RAS oncogene family	2318.8	3157.6	1.4	1.36174
M80804	AAA73144	NP_000332	NM_000341	76	Rattus norvegicus unknown mRNA	7923.4	8842.1	1.4	1.11595
M81687	AAA41355	AAA52701	J04621	65	core protein (HSPG)	1069.5	1505.5	1.4	1.40767
M83196	AAB48069	AAD00355	U80458	64	microtubule-associated protein 1A	18338.6	24952.7	1.4	1.36067
M83561	AAA02874	AAA95961	U16125	97	Glutamate receptor, ionotropic, kainate 1	1350.2	1833.1	1.4	1.35765
M84210	AAA73182	XP_046406	XM_046406	66	voltage-activating K channel	89.5	2397.1	1.4	26.7832
M86341	Q02589	P54922	L13291	86	ESTs, Highly similar to ADP-RIBOSYLARGININE HYDROLASE [R.norvegicus]	1220	1667.3	1.4	1.36664
M86389	JN0924	HHHU27	L39370	82	Heat shock 27 kDa protein (33 on d.s.)	26712.7	32860.7	1.4	1.23015
M86835	AAA42331	XP_003226	XM_003226	76	Rat vasoactive intestinal polypeptide receptor mRNA	1183.2	1638.1	1.4	1.38447
M88469	AAA41174	BAB18461	AB051390	91	f-spondin	459.6	1025.4	1.4	2.23107
M91599	AAA41157	CAA74200	Y13901	83	fibroblast growth factor receptor subtype 4 (FGFR4)	1116.3	1571.7	1.4	1.40795
M91599	AAA41157	CAA74200	Y13901	83	fibroblast growth factor receptor subtype 4 (FGFR4)	534.4	753.6	1.4	1.41018
M91652	AJRTQ	P15104	Y00387	92	Glutamine synthetase (glutamate-ammonia ligase) (39 on d.s.)	11786.1	16442.8	1.4	1.3951
M92074	AAA42294	NP_000354	NM_000363	75	troponin I.	1779.8	2416.6	1.4	1.35779
M94537	AAA16530	NP_002681	NM_002690	95	Cyclic nucleotide phosphodiesterase (CaM-PDE)	2207.9	3153.1	1.4	1.4281
S46798	AAB23819	Q13574	no human	92	Diacylglycerol kinase	44259.7	60186	1.4	1.35984
S49760	JC6124	NP_003207	U51477	79	Thyrotroph embryonic factor=leucine zipper transcription factor	1076.1	1496.6	1.4	1.39076
S58745	AAB20032	NP_004163	NM_003216	87	glutamate transporter; GluT-1	10480.6	13474.6	1.4	1.28567
S59158	AAB26422	NP_000397	NM_004172	81	Gonadotropin-releasing hormone receptor	20	763.4	1.4	38.17
S59525	AAB26420	XP_044201	NM_000406	91n	membrane protein-73; MP-73	942.5	1282.3	1.4	1.36053
S63519	AAB27415	XP_044201	no human	91n	Glucose-regulated protein GRP78	2142.5	3074.3	1.4	1.43491
S63521			XM_044201			677.6	971.6	1.4	1.43388

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

S69316	AAB33049	XP_038637	XM_038637	92	Rattus sp. 3' UTR. pre-mtHSP70	3580.6	5016.8	1.4	1.40111
S75280	AAB33865	NP_004320	NM_004329	95	Bone morphogenetic protein type IA receptor	1304.1	1795	1.4	1.37643
S75359	AAB32520	CAA51165	X72500	46	TCR gamma C4L=T-cell receptor gamma chain	629.8	1147.9	1.4	1.82264
S75435	AAB33384	NP_057637	NM_016553	74	Nucleoporin p62 homolog	6223.5	8452.8	1.4	1.35821
S75997	AAB33045	NP_004293	NM_004302	89	type I serine-threonine kinase receptor; B1	2144.7	3017.5	1.4	1.40696
S76466	AAC60703	AAB59397	M10065	73	apolipoprotein E; ApoE	2332.6	3193.8	1.4	1.3692
S78284	AAC60702	NP_001182	NM_001191	86	apoptosis inducer	147033.3	208752	1.4	1.41976
S82649	AAB46783	AAH09924	BC009924	86	Narp=neuronal activity-regulated pentraxin	2033.6	2921.3	1.4	1.43652
S82911	AAB46839	NP_073207	NM_022716	95	rHox= protein	2014.5	4482	1.4	2.22487
U05989	AAA16492	AAC24947	U63809	78	Par-4 induced by effectors of apoptosis	1323.8	2344.2	1.4	1.77081
U07201	P49088	g3341715	AC005326	93	Asparagine synthetase	986	1035.7	1.4	1.05041
U08260	I78557	Q14957	L76224	57	Glutamate receptor, ionotropic, N- methyl D-aspartate 2D	2019.9	2781.5	1.4	1.37705
U09228	AAA21122	AAA60310	M74718	80	E-box binding factor mRNA	1254.9	1711.5	1.4	1.36385
U10995	AAA83437	NP_005645	NM_005654	81	orphan receptor COUP-TFI	4014.2	4496	1.4	1.12002
U11071					Polyadenylate-binding protein-related protein mRNA, 3' end	605.6	823	1.4	1.35898
U11685	A56043	Q13133	U22662	91	Nuclear receptor subfamily 1, group H, member 3	318834.4	458301.1	1.4	1.43743
U11760	AAC52154	AAH12195	BC012195	92	transitional endoplasmic reticulum ATPase.	1399.1	1934.2	1.4	1.38246
U14398	:I59355	O00445	X96783	42	Synaptotagmin 4	18125.9	24878.7	1.4	1.37255
U14398	:I59355	O00445	X96783	42	Synaptotagmin 4	2308.6	3131.3	1.4	1.35636
U17254	JQ0623	P22736	D49728	91	Immediate early gene transcription factor NGFI-B	1983.2	2761.2	1.4	1.3923
U17565	AAC18424	NP_005906	NM_005915	91	Rattus norvegicus intestinal DNA replication protein mRNA, partial cds	3769.3	5176.5	1.4	1.37333
U17901	P54319	g5326866	AF145020	94	Phospholipase A-2-activating protein (plap)	852.3	720.4	1.4	0.84524
U19485	AAA87903	NP_008875	NM_006944	67	spp-24 precursor	582.1	832.8	1.4	1.43068
U19614	A56391	CAB43282	AL050126	85	Rattus norvegicus lamina-associated polypeptide 1C (LAP1C) mRNA, complete cds	1058.1	1586.4	1.4	1.49929
U20796	AAA62508	BAA20088	D16815	86	nuclear receptor Rev-ErbA-beta	604.2	1532.3	1.4	2.53608
U26310	AAA67648	NP_072174	NM_022648	97	Tensin (Tns)	944.4	1297.8	1.4	1.37421
						5159.6	7447.8	1.4	1.44348

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

U27201	AAA75002	NP_000353	NM_000362	95	tissue inhibitor of metalloproteinase 3 (TIMP-3)	2348.3	4018.8	1.4	1.71137
U27319	AAC52945	NP_000179	NM_000188	100	Hexokinase 1	2906.6	6514.8	1.4	2.24138
U31463	AAA74950	XP_044702	XM_044702	64	nonmuscle myosin heavy chain-A.	2871.9	4026.4	1.4	1.402
U31598	AAA87845	CAA54170	X76775	75	MHC class II-like alpha chain.	3470.1	4784.2	1.4	1.37869
U31668	Q62814	I38878	U15642	95	Transcription factor E2F-5 mRNA, partial cds	310.9	557.7	1.4	1.79382
U32575	AAA85505	AAC09358	AF055006	93	Sec6	1457.9	2017.2	1.4	1.38363
U33553	AAC98537	AAC69612	AF059274	81	Neuroglycan C	1504.9	2105	1.4	1.39876
U34963	AAA77686	CAA80661	Z23115	88	Programmed cell death repressor BCL-X-Long mRNA	1970.3	2755.9	1.4	1.39872
U36444	AAC52912	NP_006192	NM_006201	92	PCTAIRE-1a protein kinase	2857.6	3991.5	1.4	1.3968
U36895	A57223	AAG10698	AF255342	27	Rattus norvegicus putative pheromone receptor VN3 mRNA, complete cds	705.3	1018.8	1.4	1.44449
U37058	AAA79881	XP_018475	XM_018475	87	neuromedin B receptor	571.2	587.4	1.4	1.02836
U37138	AAC53097	NP_000342	NM_000351	65	Steroid sulfatase (Sts)	1209.9	1668.8	1.4	1.37929
U38801	AAB00389	NP_002681	NM_002690	95	high molecular weight DNA polymerase beta	742.1	1458.7	1.4	1.96564
U39044	AAA89163	AAK37426	AF250307	85	Rattus norvegicus cytoplasmic dynein intermediate chain 2C mRNA, complete cds	1813.8	3370.6	1.4	1.85831
U39549	AAB17890	NP_004702	NM_004711	74	synaptogyrin	2962	2219.2	1.4	0.74922
U49056	AAC52657	XP_046313	XM_046313	50	trA1	1227.3	2670.7	1.4	2.17608
U49062	AAA91470		no human		heat stable antigen CD24	5419	7443.5	1.4	1.37359
U49062	AAA91470		no human		heat stable antigen CD24	2561.6	3518	1.4	1.37336
U50185	AAA92961	XP_028840	XM_028840	37	protein phosphatase 1	959.6	1321.3	1.4	1.37693
U50947	AAC52909	NP_003544	NM_003553	55	taste bud receptor protein TB 334.	1275.3	1811	1.4	1.42006
U51583	AAB17130	AAA62155	U19969	75	zinc finger homeodomain enhancer-binding protein-1	793.4	1144	1.4	1.4419
U54632	2016220A	P50550	X96427	99	Ubiquitin conjugating enzyme E2l	1307.2	1876.8	1.4	1.43574
U59241	AAC52855	A42336	M77016	96	E-Tropomodulin	2061.1	2967.9	1.4	1.43996
U60976	AAC98705	NP_005794	NM_005803	81	RAREG-2.1 [4432.2	6352.3	1.4	1.43322
U61184	AAB03811	NP_001659	NM_001668	81	Aryl hydrocarbon receptor nuclear translocator 1	1251.7	1057.2	1.4	0.84461
U65007	PC4221	TVHUME	M15326	88	Met proto-oncogene	1018.7	1449.5	1.4	1.42289
U72620	AAB67042	NP_006709	NM_006718	66	Lot1 (lost on transformation)	1749.1	2498.3	1.4	1.42833
U75210	AAC53160	NP_000229	NM_000238	85	potassium channel protein ERG	3084.2	2712.7	1.4	0.87955
U75405	CAB01633	AAB27856	S64596	84	Collagen alpha1	54964.4	76067.8	1.4	1.38395

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

U75917	AAB46980	NP_004060	NM_004069	96	clathrin-associated protein 17	7926.3	13762.8	1.4	1.73635
U78102	AAB36783	NP_000390	NM_000399	69	krox20	1716	2342	1.4	1.3648
U79568	AAB50403	XP_008249	XM_008249	63	Voltage-dependent sodium channel PN1 mRNA, partial cds	1216.5	1687.7	1.4	1.38734
U82626	AAB96342	NP_005436	NM_005445	89	Chondroitin sulfate proteoglycan 6	1790	2518.1	1.4	1.40676
U83896	AAB41444	NP_059431	NM_017457	99	yeast sec7B	750.4	1057.3	1.4	1.40898
U88324	P54311	RGHUB1	X04526	100	Guanine nucleotide-binding protein beta	17020.2	23189.1	1.4	1.36245
U90829	AAD09247	NP_003896	NM_003905	96	APP-binding protein 1	1533.4	2216.4	1.4	1.44542
U91561	AAC23707	NP_060599	NM_018129	89	pyridoxine 5'-phosphate oxidase	1052.3	1488.6	1.4	1.41462
X04229	CAA27811	XP_002155	XM_002155	79	glutathione S-transferase (GST) Y(b) subunit	5089.3	6979	1.4	1.37131
X04979	CAA28650	NP_000032	NM_000041	72	Apolipoprotein E	289050	395922.4	1.4	1.36974
X06769	CAA29937	CAA24756	V01512	77	c-fos protein	2221.7	3190.1	1.4	1.43588
X06801	CAA29957	NP_001604	NM_001613	100	vaskular alpha-actin	8166	11572.3	1.4	1.41713
X13016	CAA31438	XP_010594	XM_010594	50	MRC OX-45 surface antigen	2764.2	3880	1.4	1.40366
X13722	CAA32001	AAF24515	AF217403	73	Rat mRNA for LDL-receptor	2079.8	2888.2	1.4	1.38869
X14265	CAA32478	NP_001734	NM_001743	100	calmodulin III	13711.7	19480	1.4	1.42068
X16555	CAA34556	NP_002756	NM_002765	99	ribose-phosphate pyrophosphokinase subunit II	609	833.3	1.4	1.36831
X16933	CAA34808	AAA35781	M94630	81	Rat mRNA for hnRNP C protein, partial	1017.6	1438.1	1.4	1.41323
X53363	CAA37446	NP_004334	NM_004343	85	calreticulin	4606	6412	1.4	1.3921
X54081	CAA38018	NP_001852	NM_001861	79	cytochrome c oxidase subunit IV	25191.1	35621	1.4	1.41403
X54510	P21571	P18859	M37104	76	R.norvegicus mRNA for coupling factor 6 of mitochondrial ATP synthase complex	2848.4	4097.5	1.4	1.43853
X57514	CAA40739	AAD50273	AF165124	71	GABA(A) receptor gamma-1 subunit	1254.4	1716.4	1.4	1.3683
X58865	CAA41674	NP_002618	NM_002627	68	6-phosphofructokinase	2782.4	3855.5	1.4	1.38567
X59864	CAA42524		no human		ASM15 gene	4536.4	6175.6	1.4	1.36134
X60659	CAA43066		no human		potential ligand binding protein	1591.5	2227	1.4	1.39931
X61296	CAA43594		no human		L1 retroposon, ORF2	752.3	810.2	1.4	1.07696
X62841	CAA44645	CAC19684	AL137790	75	voltage-gated potassium channel	20	1786.6	1.4	89.33
D90005					Rat endogenous retroviral sequence, 5' and 3' LTR.	891	1080	1.4	1.21212
X63854	CAA45339	XP_042526	XM_042526	70	mtp2a	1045.7	2694.8	1.4	2.57703
X65454	1908200A	Q92791	U47621	89	SC65 synaptonemal complex protein	1110.2	1025.5	1.4	0.92371
X65948	CAA46766	NP_001505	NM_001514	94	alpha initiation factor	1106.7	1604.4	1.4	1.44972
X66366	CAA47009	XP_012362	XM_012362	96	Gephyrin	1331.2	1865.3	1.4	1.40122

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

X67250	CAA47672	CAA35769	X51408	97	n-chimaerin	1749.6	4386.6	1.4	2.5072
X68101	CAA48220	XP_048926	XM_048926	87	trg	4248.1	5943.3	1.4	1.39905
X68199	CAA48287	NP_005370	NM_005379	59	myosin I heavy chain	896.5	1232.1	1.4	1.37434
X72757	CAA51286	XP_012265	XM_012265	79	R.norvegicus cox VIa gene (liver)	1050.3	1468.5	1.4	1.39817
X74227	CAA52298	CAB65055	Y18024	68	IP3 3-kinase	1230.5	2109.2	1.4	1.7141
X83579	P51952	P50613	X79193	95	R.norvegicus mRNA for Cdk-activating kinase	494.8	681.8	1.4	1.37793
X95986	g1906814	P16152	J04056	80	Carbonyl reductase	779.8	1070.2	1.4	1.3724
Y00404	CAA68465	NP_000445	NM_000454	83	Copper-zinc-containing superoxide dismutase	25017.8	34713.1	1.4	1.38754
Y12178	CAA72878		No Human						
Y14635	CAA74979	NP_001085	NM_001094		R.norvegicus mRNA for bilirubin oxidase	528.7	755.8	1.4	1.42954
Z11504	CAA77579	NP_000900	NM_000909	75	proton-gated cation channels modulatory subunit MDEG2	901.2	1235.4	1.4	1.37084
Z36944	S47327	I37242	X77197	86	NPY-1 receptor	1281.9	1843.7	1.4	1.43826
				98	Putative chloride channel (similar to Mm Clcn4-2)	1371.5	1881.9	1.4	1.37215
NM_020616	NP_065641	NP_065693	NM_020642	70	Mus musculus predicted gene ICRFP703B1614Q5.6	1612.2	2301.8	1.4	1.42774
AA893607					Mus musculus, Similar to paxillin, clone IMAGE:3583842	1772.2	2543.7	1.4	1.43533
AI639471					EST (not recognized)	553.2	761.6	1.4	1.37672
D10756	BAA01588	XP_042737	XM_042737	98	proteasome subunit R-ZETA	2092.1	4435	1.4	2.11988
NM_030656	NP_085914	NP_000021	NM_000030	76	Serine-pyruvate aminotransferase	3276.1	4467.3	1.4	1.3636
J01435					Rattus norvegicus mitochondrial genome	200479.5	289318	1.4	1.44313
NM_031043	NP_112305	NP_004121	NM_004130	83	glycogenin	4181.2	4557.8	1.4	1.09007

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

Rat Gene Accession. No.	Rat Protein Access. No.	Human Protein Access. No.	Human Gene Access. No.	% homolog y	Identity	Former identifier	Naïve Intensity	CFA Intensity	Affymetrix Ratio	Ratio Naïve/CFA
AJ251835					Mus musculus Kcnq1, Ltrpc5, Mash2, Tapa-1, Tssc4 and Tssc6 genes, alternative transcripts	AA799465	1296.5	20	-75.6	64.825
S63521		XP_044201	XM_044201	91n	Glucose-regulated protein GRP78		677.6	20	-24.5	33.88
AF255347	AAK49191	NP_115998	NM_032609	71	Rattus norvegicus cytochrome c oxidase subunit IV isoform 2	H31232	2815.1	20	-22.1	140.755
NM_009394	NP_033420	XP_029894	XM_029894	90n	Mus musculus troponin C, fast skeletal	AI639532	4199.6	20	-20.2	209.98
X00975	CAA25480	AAA91848	M21812	98	MLC2 gene for muscle myosin light chain 2		4708.3	20	-18.9	235.415
NM_011602	NP_035732	AAG39288	AF113217	86n	Mus musculus talin (Tln), mRNA	AA800962	1187.5	20	-18.7	59.375
S69383	AAB30132	NP_001131	NM_001140	70	12-lipoxygenase		4484.6	20	-17.3	224.23
X00975	CAA25480	AAA91848	M21812	98	MLC2 gene for muscle myosin light chain 2		4708.3	20	-18.9	235.415
NM_015818	NP_056633	XP_017698	XM_017698	84(mus)	Mus musculus heparan sulfate 6-O-sulfotransferase 1	AA859740	3308	88.9	-14.1	37.2103487
H33003					EST (not recognized)		3013.4	20	-12.2	150.67
M99223	AAA40991	NP_005164	NM_005173	72	Calcium transporting ATPase mRNA		2466.7	174.2	-11.9	14.1601607
NM_017151	NP_058847	NP_001009	NM_001018	69	Ribosomal protein S15	AA892895	1790.6	20	-11.4	89.53
J04035	Q99372	EAHU	M17282	65	Tropoelastin		4219.6	267.7	-11	15.7624206
X54686	CAA38500	NP_002220	NM_002229	76	R.norvegicus pJunB gene		1795.4	20	-10	89.77
AA875124					EST (not recognized)		2047.8	99.6	-8.9	20.560241
NM_031841	NP_114029	AB032261	BAA93510	92	Stearoyl-CoA desaturase 2	AF036761	6600.8	1035.5	-8.4	6.37450507
L00088	AAA98533	P05976	M20642		Rat fast myosin alkali light chains exon 6, common to both MLC1-f and MLC3-f		3003.4	108.2	-8.3	27.7578558
A1230294		XP_004285	XM_004285	85	Peroxisome proliferative activated receptor, delta [Homo sapiens]		870.6	20	-8.2	43.53
NM_031643	NP_113831	NP_002746	NM_002755	90n	Mitogen activated protein kinase kinase 2	AI178835	980.2	20	-8	49.01
S68736	AAB29713	XP_052590	XM_052590	80	Myosin heavy chain mRNA		2188.2	339.3	-6.8	6.44916004
X63143	CAA44848	AAK39969	AF248634	45	neuroglycan		1813.4	20	-6.8	90.67
X16262	CAA34348	NP_002465	NM_002474	88	Myosin heavy chain 21		1045.7	703	-6.7	1.48748222
J00692	CAA24534	AAF02694	AF182035	90	Skeletal muscle alpha-actin (original seq withdrawn)		8077	1012.8	-6.6	7.97492101

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

Z46614	CAA86587	XP_004967	XM_004967	95	Caveolin	1520.1	20	-6.6	76.005
M10140	AAA40935	XP_030967	XM_030967	89	Rat skeletal muscle creatine kinase composite mRNA	11220.6	1503.8	-6.5	7.46149754
S70803	AAB30888			No					
				Human					
A1230260	P13862	P13862	X16312	100	Clone p10.15 product	3038	468.6	-6.5	6.48314127
S76489	P52844	P49888	U08098	71	Casein kinase II beta subunit	4209	20	-6.3	210.45
U35244	AAC52985	NP_075067	NM_022916	93	Estrogen sulfotransferase	1933.2	20	-6.2	96.66
					vacuolar protein sorting homolog 1-vps33a	1057.1	20	-5.9	52.855
BC012962	AAH12962	XP_031260	XM_031260	92n	Mus musculus, Similar to DnaJ (Hsp40) homolog, subfamily B, member 1	965.3	20	-5.8	48.265
L35571	A55198	I38522	U07559	72	Insulin related protein 2	852.9	20	-5.5	42.645
X06584	CAA29809	AAB04558	U63041	89	140-kD NCAM polypeptide	1012.5	20	-5.5	50.625
AF016047	AAC27973	NP_002564	NM_002573	90	platelet-activating factor acetylhydrolase alpha 1 subunit	4829.2	460.6	-5.3	10.4845853
A1639215					EST (not recognized)	808.7	803.1	-5.3	1.00697298
U52950	AAB17068	NP_005900	NM_005909	89	Microtubule-associated protein 1B mRNA	954.9	20	-5.3	47.745
J04792	AAA66286	NP_002530	NM_002539	91	Ornithine decarboxylase (ODC) gene, complete cds	878.3	20	-5.1	43.915
U19866	AAA68695	NP_056008	NM_015193	92	Growth factor (Arc) mRNA	1072.4	103.2	-4.9	10.3914729
L10362	AAA42189	NP_055663	NM_014848	90	Synaptic vesicle protein 2B (SV2B) mRNA	1122.8	46	-4.8	24.4086957
L21711	AAA65445	XP_039888	XM_039888	70	Galectin-5	634.8	20	-4.8	31.74
NM_008538	NP_032564	XP_039759	XM_039759	84n	Myristoylated alanine rich protein kinase C substrate	1089.8	70.1	-4.7	15.5463623
AA859870	AAA41157	NP_002002	NM_002011	83	EST (not recognized)	1272.1	264.1	-4.6	4.81673608
M91599					Rat fibroblast growth factor receptor subtype 4	534.4	54.4	-4.6	9.82352941
D89655	JC5533	A48528	Z22555	83	CD36 antigen (collagen type I receptor, thrombospondin receptor)-like 1 (scavenger receptor class B type 1)	854.5	20	-4.5	42.725
S80345	AAB35675	NP_000542	NM_000551	78	VHL= von Hippel-Lindau tumor suppressor gene homolog	844.1	20	-4.5	42.205
U50353	AAC99551	Human homology too low to include		87					
AA891803	NP_079725	XP_054090	XM_054090	84n	Defensin 3a (RatNP-3a) gene Rat EST; mouse RIKEN protein; human hypothetical protein	3548.3	669.9	-4.5	5.29676071
						1428.1	170.7	-4.3	8.36613943

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

AA800678 A1639128	NP_003383	NM_003392	EST(not recognised)	922.7	36.6	-4.2	25.2103825
L24897	AAA72046	XP_052590	Homo sapiens wingless-type MMTV integration site family, member 5A chain mRNA, 3' end	762.4	20	-4.2	38.12
U71293	AAC53018	AAC32258	Rattus norvegicus myosin heavy chain mRNA, 3' end	3814.4	824.4	-4.2	4.62688016
NM_021537	NP_067512	AF039196 X99325	Rattus norvegicus hairless protein	1537.2	20	-4.2	76.86
V01270		O00506	Mus musculus serine/threonine kinase 25	1541.2	384.6	-4	4.00728029
A1230211	AAA80459	M11167	Rattus norvegicus genes for 18S, 5.8S, and 28S ribosomal RNAs	15060	6627.3	-4	2.27241863
AA859966		XP_052128	Rattus norvegicus voltage-gated K+ channel (Kv43)	914.9	396.4	-4	2.3080222
AF002281	AAC16671	XP_003374	Strong homology with 18S rRNA (V01270)	216690.7	55971.4	-3.9	3.87145399
S61960	AAB26845	NP_004050	Alpha-actinin-2 associated LIM protein	620.5	20	-3.9	31.025
AF032120	AAC69268	NP_005707	Cysteine conjugate beta-lyase	1079.9	268.2	-3.9	4.02647278
J05132	AAA42315	AAG30420	GLUT1 transporter C-terminal binding protein	753.8	73.4	-3.8	10.2697548
NM_012817	NP_036949	NP_000590	Rat 3-methylcholanthrene-inducible truncated UDP-glucuronosyltransferase mRNA	778.4	20	-3.8	38.92
X60469	CAA42999	NP_001155	Insulin-like growth factor-binding protein 5	3872.5	1044.3	-3.7	3.70822561
AA892645	P31977	A41289	Integrase-like protein, APP interacting protein	1830	488.3	-3.7	3.74769609
AF004811	NP_073204	XP_044011	EST (not recognized)	917.3	255.3	-3.6	3.59302781
NM_022713	AAA41735	NP_004475	Moesin	558.6	41.4	-3.6	13.4927536
M22400	AAA42004	AAA60250	Rattus norvegicus dorsal protein 1	533.1	20	-3.6	26.655
AA892570	AAA16633	NP_076951	Glypican 3	1290.5	746	-3.6	1.72989276
L19699			EST (not recognized)	929.8	243.8	-3.5	3.81378179
L22557	AAA91974		Rat GTP-binding protein (ral B)	1936.2	547.8	-3.5	3.53450164
U16686		Human homology too low to include	Vesicle-associate calmodulin-binding protein	850.6	168.6	-3.5	5.04507711
X13044	CAA31450	NP_004346	Defensin RatNP-1 precursor	1918.2	544	-3.5	3.52610294
		NM_004355	MHC-associated invariant chain gamma	6065.3	1467.3	-3.5	4.13364683

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X60769	CAA43179	NP_005185	NM_005194	53	Rat sfb mRNA for silencer factor B precursor	J00791	587.2	20	-3.5	29.36
M25590	AAA40684		No Human		Androgen-dependent protein		1305.1	634.3	-3.4	2.05754375
U19614	AAA69914	XP_035429	XM_035429	51	Lamina-associated polypeptide 1C (LAP1C)		2481.3	477	-3.4	5.20188679
U41853	AAB05672	NP_006380	NM_006389	83	150 kDa oxygen regulated protein		868.5	334.2	-3.4	2.59874327
AA892394					EST(not recognised)		1064.2	320.4	-3.3	3.32147316
A1009098		AAH04560	BC004560	92n~	Similar to oxygen regulated protein (150kD)		971	298.7	-3.3	3.25075326
M27726	AAA40815	AAA59597	J03544	92	Phosphorylase (B-GP1)		4948.6	1486.7	-3.3	3.32858008
U17565	AAC18424	NP_005906	NM_005915	91	Intestinal DNA replication protein mRNA, partial cds		852.3	20	-3.3	42.615
U82623	AAB91537	NP_006779	NM_006788	71	cytoctrin		627.3	585.4	-3.3	1.07157499
U91561	AAC23707	NP_060599	NM_018129	89	Pyridoxine 5'-phosphate oxidase		1052.3	323.1	-3.3	3.25688641
X17053	CAA34901	NP_005399	NM_005408		Rat immediate-early serum-responsive JE gene		1204.5	741.3	-3.3	1.62484824
M11188			X03205	53	Rat 18S rRNA gene	AA859372	69196	21352.5	-3.2	3.24065098
AA893980		P06727	X13629	99	EST(not recognised)		3687.7	4672.8	-3.2	0.78918422
M13508	AAA40748	AAB50831	S83436	59	Rat apolipoprotein A-IV gene	AA894148	14609.1	4540	-3.2	3.21786344
S83436	AAB50831				Glutathione S-transferase subunit 13	A1105137	1401.1	431.7	-3.2	3.24554088
D87991	BAA13527	NP_005818	NM_005827	100	UDP-galactose transporter related isozyme 1, complete cds		1723.3	815.5	-3.2	2.1131821
AF032667	AAC01579	XP_036173	XM_036173	84	Rexo70		570.9	20	-3.1	28.545
AY028804	AAK83555	XP_050756	XM_050756	89	Mus musculus golli-interacting protein mRNA	A1229655	1774.8	580.4	-3.1	3.05789111
D13978	BAA03088	AAH08195	BC008195	84n	argininosuccinate lyase		587.1	10	-3.1	58.71
NM_019291	NP_062164	NP_000058	NM_000067	90	Carbonic anhydrase II	U60578	1158.1	375.4	-3.1	3.08497603
AA799764				80	EST(not recognised)		761.4	893.6	-2.9	0.85205909
AB010429	BAA32539	XP_040337	XM_040337	65	Acyl-CoA hydrolase-like protein		1098.6	381.9	-2.9	2.87666929
AF051155	AAD03500	XP_028881	XM_028881	96	G beta-like protein GBL		2859.6	2550	-2.9	1.12141176
H31692				No						
M61875	AAA53532	XP_030320	XM_030320	Human	glycoprotein CD44		704.3	402.8	-2.9	1.74851043
U19614	AAA69914	XP_035429	XM_035429	69	Lamina-associated polypeptide 1C		1360.1	20	-2.9	68.005
X16481	CAA34501			51			604.2	897	-2.9	0.6735786
AA892635	TVRTRH	TVHUC4	M31470	No	Zinc(2+) binding protein		10017.3	6609.9	-2.9	1.51549948
				Human	Ras-like protein		808	283.7	-2.8	2.84807896
				99						

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AA892801	1606211A	EFHU2	M19997	99	Eukaryotic translation elongation factor 2	15102.3	4362.5	-2.8	3.46184527
AA892916	BAB26050				Rat EST; mouse hypothetical protein from a RIKEN	658.3	171.1	-2.8	3.84745763
NM_012774	NP_036906	NP_004475	NM_004484	88	Glypican 3	619.2	111.2	-2.8	5.56834532
U17901	AAA79979	NP_004244	NM_004253						
U83896	AAB41444	NP_059431	NM_017457	96	Phospholipase A-2-activating protein	582.1	83.3	-2.8	6.9879952
NM_030861	NP_110488	NP_002397	NM_002406	99	sec7B	750.4	20	-2.8	37.52
AF077354	AAC27937	AAA02807	L12723	84	N-acetylglucosaminyltransferase I	627	156.4	-2.7	4.00895141
D31873	BAA06672	NP_002305	NM_002314	90	Ischemia responsive 94 kDa protein	685.6	215.4	-2.7	3.18291551
L26525	AAA21089	XP_004559	XM_004559	95	LIMK-1	1533.4	569.4	-2.7	2.69301019
U64030	AAC34734	NP_001939	NM_001948	80	Tyrosine kinase receptor (Ptk-3)	1533.1	566	-2.7	2.70865724
AA891802	NP_036831	NP_036460	NM_012328	87	dUTPase	1372.1	516.4	-2.7	2.6570488
NM_012699	AAC53061	NP_005931	NM_005940		EST(not recognised)	1163.8	454.7	-2.6	2.55948977
U46034	NP_034050	NP_005767	NM_005776	86	Microvascular endothelial differentiation gene 1	628.1	114.4	-2.6	5.49038462
AA799718	NP_034050	NP_005767	NM_005776	80	Stromelysin 3	750.2	287.8	-2.6	2.6066713
NM_009920	NP_034050	NP_005767	NM_005776		Mus musculus ES cells cDNA, RIKEN	1751.2	705	-2.5	2.48397163
AA866419	AAF72982	NP_036475	NM_012343	59(mus)	Mus musculus cornichon (Drosophila) like (Cnll), mRNA	836.3	107.2	-2.5	7.80130597
AF257157	AAF72982	NP_036475	NM_012343		EST (not recognized)	590.3	165.6	-2.5	3.56461353
AF020212	AAB71237	NP_036192	NM_012062	88(mus)	Mus musculus nicotinamide nucleotide transhydrogenase	635.3	492.2	-2.5	1.29073547
D64045	BAA18932	P27986	M61906	72	DLP1 splice variant 2 (DLP1)	519.5	115.3	-2.5	4.50563747
X02412	CAA26259	CAA27243	X03541	84	Phosphatidylinositol 3-kinase p85 alpha subunit	545.4	135.6	-2.5	4.02212389
X53428	CAA37519	NP_002084	NM_002093	66	Rat mRNA fragment for striated muscle alpha-tropomyosin	6631.9	2668	-2.5	2.48571964
Y07704	CAA68971	XP_039079	XM_039079	95	Glycogen synthase kinase 3 beta	710.1	286.6	-2.5	2.47766923
AA799726	NP_065613	XP_027016	XM_027016	79	Best5 protein	1452.4	589.2	-2.5	2.46503734
AA800044	NP_065613	XP_027016	XM_027016		Mus musculus adult male tongue cDNA, RIKEN	1313.3	550.6	-2.4	2.38521613
AA859942	NP_065613	XP_027016	XM_027016		EST(not recognised)	1045.7	239.7	-2.4	4.3625365
AA866231	NP_065613	XP_027016	XM_027016	89n	Homo sapiens N-myristoyltransferase 1	2794.1	1206.6	-2.4	2.31568042
AA875316	NP_065613	XP_027016	XM_027016		Rat EST; mouse hypothetical protein from a RIKEN	1429	590.4	-2.4	2.42039295
					EST(not recognised)	1404.3	446.6	-2.4	3.14442454

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AB000928	BAA24486	NP_067009	NM_021186	45	Zona pellucida 1 glycoprotein	3464.8	827.3	-2.4	4.18808171
NM_017187	NP_058883	NP_002120	NM_002129	91	Rattus norvegicus high mobility group protein 2	1779.4	726.4	-2.4	2.44961454
AJ010386	CAA09103	XP_043098	XM_043098	78	ETR-R3b protein, alternatively spliced isoform	528.7	136.4	-2.4	3.87609971
AJ012603	CAA10072	NP_003174	NM_003183	88	TNF-alpha converting enzyme (TACE)	1354.8	565.3	-2.4	2.39660357
D14425	BAA03318	NP_000936	NM_000945	100	Calcineurin B	2568	1960.4	-2.4	1.30993675
M36804		XP_006316	XM_006316	85	Rat follicle stimulating hormone beta-subunit mRNA	852.6	362.1	-2.4	2.35459818
M65251	AAA40698	NP_006725	NM_006734	76	Rat angiotensinogen gene-inducible enhancer-binding protein 1 mRNA, 3' end	508	327.1	-2.4	1.55304188
S72407		XP_011387	XM_011387	89	Laminin M subunit	538.6	161.5	-2.4	3.33498452
U09551	AAA53240	XP_027193	XM_027193	89	HMG-box containing protein 1	794.8	333.2	-2.4	2.38535414
X77117					NADH-cytochrome b5 reductase	1038.5	4356.1	-2.4	2.37333854
AA799854					EST (not recognized)	2193.1	20	-2.3	109.655
AA800693					EST (not recognized)	2896.7	1251.7	-2.3	2.31421267
BC004055	AAH04055	XP_011894	XM_011894	87	Mus musculus, Similar to supervillin	702.7	285.4	-2.3	2.46215837
AA859848	NP_062310				Rat EST; mouse hypothetical protein from a RIKEN	4834.3	2083.8	-2.3	2.31994433
AF057285	AAC97475	XP_034403	XM_034403	86n	Mus musculus intersectin-EH binding protein lbp1	5930.5	2617.9	-2.3	2.26536537
U43187	AAB03535	XP_044378	XM_044378	85n	Mus musculus MEK kinase 3, mRNA, partial cds	863.5	379.9	-2.3	2.27296657
AF020210	AAB71235	XP_050175	XM_050175	83	DLP1 splice variant 4 (DLP1) mRNA, partial cds	1001.5	428.5	-2.3	2.33722287
AF048828	AAD02476	NP_003365	NM_003374	93	Rattus norvegicus voltage dependent anion channel	1207.1	531.3	-2.3	2.2719744
NM_031020	NP_112282	XP_043351	XM_043351	94	p38 mitogen activated protein kinase	1355.7	597.6	-2.3	2.2685743
NM_013096	NP_037228			No Human	Rattus norvegicus Hemoglobin, alpha 1	5587.8	1966.5	-2.3	2.84149504
A1229291		X91648	X91648	92n	H.sapiens mRNA for pur alpha extended 3'untranslated region	9346	4130.6	-2.3	2.26262528
AJ224879	CAA12179	CAA29604	X06268	93	Collagen alpha 1 type II, partial CDS	3000.1	1303.9	-2.3	2.30086663
L38482	AAA98928	XP_042013	XM_042013	84	Serine protease	6167.4	2703.5	-2.3	2.28126503
M26594	AAA41563	AAB01380	L34035	88	malic enzyme	1311.9	572	-2.3	2.29353147
M38566	AAB02287	NP_000775	NM_000784	70	Mitochondrial cytochrome P450	631.7	272	-2.3	2.32242647

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S75730	AAB32826	NP_005054	NM_005063	62	Stearyl-CoA desaturase 2 SCD2 homolog	7441.7	2804.6	-2.3	2.65339086
U38253	AAC52788	NP_065098	NM_020365	87	Initiation factor eIF-2B gamma subunit	886.3	290.4	-2.3	3.05199725
U40001	AAC52771	XP_008882	XM_008882	65	Hormone-sensitive lipase testicular isoform	1327.1	20	-2.3	66.355
U95178	AAC33406	XP_003869	XM_003869	80	DOC-2 p59 isoform	793.7	20	-2.3	39.685
X99337	P26453	T17219	T17219	95	Stromal cell derived factor receptor 1	816.7	348.2	-2.3	2.3454911
NM_009460	NP_033486	XP_028029	XM_028029	93n	Mus musculus ubiquitin-like 1 (Ubi1)	914.2	410.7	-2.2	2.22595569
AA799406					EST(not recognised)	10860.4	4394.7	-2.2	2.47124946
AA800808					EST (not recognised)	1355.1	605.5	-2.2	2.23798514
X51974	CAA36236	NP_036254	NM_012122	89	R.norvegicus mRNA for pl 6.1 esterase	3931.4	1752	-2.2	2.24394977
V01239	CAA24549			No Human	Rat gene for growth hormone (presomatotropin)	617.2	286	-2.2	2.15804196
AA891054					Mouse 4.5S RNA gene	1885	706.8	-2.2	2.66694963
NM_018749	NP_061219	AAH14912	BC014912						
AA892801	1606211A	EFHU2	M19997	92n	Mus musculus eukaryotic translation initiation factor 3, subunit 7	2460.2	1131	-2.2	2.17524315
BC012408	AAH12408	NP_001737	NM_001746	99	Eukaryotic translation elongation factor 2	12645	5690.2	-2.2	2.22224175
AB008807	BAA34217	NP_004823	NM_004832	87n	Mus musculus, Similar to calnexin glutathione-dependent	822.7	379.9	-2.2	2.16556989
AF033109	AAC70903	NP_004844	NM_004853	71	dehydroascorbate reductase	4461.4	20	-2.2	223.07
AF040750	AAC09272	NP_002073	NM_002082	75	syntaxin 8	537.2	245.3	-2.2	2.18997146
AI639102				88	G protein-coupled receptor kinase 6, splice variant C	10142.6	4583.5	-2.2	2.21285044
U38253	AAC52788	NP_065098	NM_020365		EST(not recognised)	603	277.3	-2.2	2.17454021
AI639489	AAG45967	XP_035115	XM_035115	87	Rattus norvegicus initiation factor eIF-2B gamma subunit	2794.7	4316.9	-2.2	0.64738586
D78303	BAA23885	NP_073739	NM_022828	85n	Homo sapiens polymerase (DNA directed), delta 3	966.6	440.8	-2.2	2.19283122
M64300	AAA41124	NP_002736	NM_002745	48	YT521 mRNA for RNA splicing-related protein	1112.9	498.3	-2.2	2.23339354
M75168	AAA41787	NP_004631	NM_004640	95	Extracellular signal-related kinase (ERK2)	1610	747.8	-2.2	2.15298208
X06701	CAA29887	NP_000509	NM_000518	98	liver nuclear protein p47	2980.4	1339.7	-2.2	2.22467717
				78	Beta-globin gene	114847.8	51910.3	-2.2	2.21242798

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S83279	AAB49519	NP_000405	NM_000414	83	HSD IV=peroxisome proliferator-inducible gene		3057.3	969.2	-2.2	3.15445728
U54632	AAC98704	NP_003336	NM_003345	100	Rattus norvegicus ubiquitin-conjugating enzyme UbcE2A mRNA		6964.4	2544.8	-2.2	2.73671801
X78848	CAA55405	NP_000838	NM_000847	75	R. norvegicus (Fischer 344) GST Yc1 mRNA		2031.5	1222.7	-2.2	1.66148687
Y07704	CAA68971	XP_039079	XM_039079	79	Best5 protein		1778.5	795.9	-2.2	2.23457721
Z22812	CAA80465	NP_004624	NM_004633	58	Interleukin-1 receptor type 2		1340.8	608.8	-2.2	2.20236531
NM_031648	NP_113836	O00168	U72245	61	Phospholemman chloride channel	AA799645	4441.8	1075.7	-2.1	4.12921818
L47235				No	Mus musculus ERCC2 gene	AA799657	1344.2	2096.9	-2.1	0.64104154
AA800024				Human	EST (not recognized)		3834.4	3324.7	-2.1	1.15330707
AA800176		XP_007957	XM_007957	84	Homo sapiens hypothetical protein (LOC57019)		1914.8	916.7	-2.1	2.08879677
AA800671		XP_017730	XM_017730	88	Homo sapiens IQ motif containing GTPase activating protein 2		617.3	219.4	-2.1	2.8135825
AA818726		NP_055152	NM_014337	83n	Homo sapiens peptidylprolyl isomerase (cyclophilin)-like 2		1127.2	537.8	-2.1	2.09594645
L06433				No	c-HA-ras proto-oncogene mechanism sequence	AA852046	2473.1	1266.8	-2.1	1.95224187
AA866358	AAH08539	BAB14219	AK022744	80(mus)	EST (not recognized)		8750.6	4117.1	-2.1	2.12542809
AA866471	AAB87720	NP_055689	NM_014874	91	Unnamed protein product		766.5	20	-2.1	38.325
U41803				90n	Rattus norvegicus hypertension-related protein	AA874813	6681.8	3189.5	-2.1	2.09493651
AF234783	AAF40439	AAH15221	BC015221	91n	Mus musculus tescalcin mRNA	AA892511	2094.7	1009.2	-2.1	2.07560444
BC009157	AAH09157	XP_009650	XM_009650		N-terminal acetyltransferase complex	AA893199	1268.4	617.1	-2.1	2.05542052
AF026554	O70247	Q9Y289	AF069307	83	Rattus norvegicus sodium-dependent multi-vitamin transporter (SMVT) mRNA, complete cds		1193.5	557.2	-2.1	2.1419598
AF031943	AAB87065	NP_001289	NM_001298	90	Rattus norvegicus cyclic nucleotide-gated cation channel (CNG3) mRNA, partial cds		1646.7	791.6	-2.1	2.08021728
AF061945	AAD11811	XP_042803	XM_042803	79	Rattus norvegicus NMDA receptor-like long variant mRNA, partial cds		1031.9	495.8	-2.1	2.06128278
NM_031668	NP_113856	XP_027809	XM_027809	57	MYB binding protein	AI229637	1040.8	493.2	-2.1	2.11030008
NM_012598	NP_036730	NP_000228	NM_000237	89	Lipoprotein lipase	AI237731	706	338.3	-2.1	2.08690511
D10926	BAA01724				Tissue factor pathway inhibitor precursor		879.8	420.2	-2.1	2.09376487

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H33459				NP_001743	NM_001752	88 No Human	Mus musculus adult male small intestine cDNA, RIKEN		627.4	305.3	-2.1	2.05502784
M11670	AAA40884						Rat liver catalase		1087.6	301.2	-2.1	3.61088977
M31038	AAA41608						Rat MHC class I non-RT1.A alpha-1-chain		624.9	278.6	-2.1	2.24300072
M77245	B32105	I54360	L13939			96	Adaptor protein complex AP-1, beta 1 subunit		7630.3	3643.9	-2.1	2.0939927
U05013	P23711	I60119	D21243			89	Heme oxygenase-2 non-reducing isoform		1432.7	1961.7	-2.1	0.73033593
U57362	AAB07870	Human homology too low to include					Collagen XII alpha 1 (Col12a1) mRNA, partial cds		1095.2	623.6	-2.1	1.75625401
U76557	AAC53121	XP_047694	XN_047694			88	O-GlcNAc transferase		856.4	288.5	-2.1	2.96845754
X01785	CAA25925	NP_005935	NM_005944			69	Rat thymocyte mRNA for cell surface protein (MRC OX-2)		1240	581.7	-2.1	2.131683
NM_008193	NP_032219	XP_047551	XN_047551			83n	Mus musculus guanylate kinase 1	AA800291	1320.4	672.3	-2	1.96400416
D49708	BAA08556	AAD19278	AF057159			75	RNA binding protein		1249.2	726.4	-2	1.71971366
NM_017248	NP_058944	XP_015755	XN_015755			99	Heterogeneous nuclear ribonucleoprotein A1	AA965147	1234.3	792	-2	1.5584596
AB005540	BAA22332	NP_002586	NM_002595			97	PCTAIRE2		1032.3	523.9	-2	1.9704142
AF004017	AAC40034	AAG47773	AF310248				Solute carrier family 4, sodium bicarbonate cotransporter, member 4		2010.8	1029.5	-2	1.95318116
AF044581	AAC18967	XP_039018	XN_039018			87	Syntaxin 13		4772	2446.5	-2	1.95054159
M34464	AAA40683	NP_001625	NM_001634			93	S-adenosylmethionine decarboxylase EST (not recognized) EST (not recognized)	A1008131	1410.5 910.4	927.9 449.9	-2 -2	1.52009915 2.02356079
A1639043							Phosphatase inhibitor-1 protein mRNA		4794.2	3320.2	-2	1.44394916
J05592	AAA41933	NP_006732	NM_006741			72	Intracellular calcium-binding protein (MRP14)		1419.1	726.9	-2	1.95226303
L18948	AAA18214	NP_002956	NM_002965			64	Rattus norvegicus lamina associated polypeptide 2 (LAP2)		1509.3	631.9	-2	2.38851084
U18314	AAC52209	AAB60330	U09087			79	C426 intestinal epithelium proliferating cell-associated mRNA sequence		617.6	214.4	-2	2.88059701
U21718		XP_040597	XN_040597			91n	Rattus norvegicus cell cycle progression related D123 mRNA, complete cds (13 on d.s.)		2819.8	1418.9	-2	1.98731412
U34843	g1236114	g3551742	U27112			93			567.2	256.9	-2	2.20786298

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

U77931	AAK21974			No Human	rRNA promoter binding protein		13221.3	5476.7	-2	2.41409973
U89743	AAB49893			No Human	Unknown protein mRNA, partial cds		822.4	414.3	-2	1.985035
U95161	AAB54064	AAH02873	BC002873	73	Nuclear protein E3-3orf2		1195.9	591.2	-2	2.02283491
X06769	CAA29937	CAA24756	V01512	77	c-fos mRNA		2221.7	1111.6	-2	1.99865059
X13044	CAA31450	NP_004346	NM_004355	67	Rat mRNA for MHC-associated invariant chain gamma		5019.5	2489.5	-2	2.01626833
X59864	CAA42524			No Human	Rat ASM15 gene		4536.4	2257.8	-2	2.00921251
X76453	S42794	P53816	X92814	82	Hras-revertant gene 107		2076.4	1023.1	-2	2.02951813
X83537	CAA58521	NP_004986	NM_004995	87	MT-MMP		8321.3	4870.2	-2	1.70861566
AA799497					EST (not recognized)		889.4	461.3	-1.9	1.92802948
X74504	CAA52612			No Human	M.musculus T10 mRNA	AA799663	4649.6	2387.3	-1.9	1.94763959
AA800039	AAH06701	XP_043202	XM_043202		Rat EST; mouse hypothetical protein; Homo sapiens similar to ORF ESTs, Weakly similar to B39066		8833.5	4649.3	-1.9	1.89996344
AA800199	B39066	T34520		90n	proline-rich protein 15 - [R.norvegicus]		3623.5	1871.1	-1.9	1.93656138
AA800673				73	Mus musculus 10, 11 days embryo cDNA, RIKEN		1412.8	631.2	-1.9	2.2382763
AA859562					EST (not recognized)		1827.2	958.6	-1.9	1.90611308
AA859680					EST (not recognized)		921.7	480.5	-1.9	1.9182102
AA874896					EST (not recognized)		871.7	470.3	-1.9	1.85349777
AA875217					EST (not recognized)		2843.3	1532.6	-1.9	1.85521336
NM_022879	NP_075017	NP_067046	NM_021223	92(mus)	Mus musculus myosin light chain, regulatory A	AA891242	2442.6	1276.4	-1.9	1.91366343
AA892897	1584463	XP_002844	XM_002844	67	Homo sapiens procollagen-lysine	AA893870	808.4	423.3	-1.9	1.90975667
V01270			M11167		Rattus norvegicus genes for 18S, 5.8S, and 28S ribosomal RNAs		52805.4	20689.7	-1.9	2.55225547
AF336828	AAK21297	XP_050453	XM_050453	93n	Nucleobindin	AA944007	26790.3	13801.7	-1.9	1.94108697
NM_031603	NP_113791	NP_006752	NM_006761	76	Tyrosine 3-monooxygenase	AA965154	4146.8	2239.9	-1.9	1.85133265
AB000362	BAA19092	NP_001271	NM_001280	98	CIRP (cold-inducible RNA-binding protein)		1364.1	590.2	-1.9	2.31125042
AB013454	BAA34221	NP_003043	NM_003052	98	NaPi-2 beta		1063.8	799.9	-1.9	1.32991624
AF030089	AAD43824		no human	69	Activity and neurotransmitter-induced early gene protein 4		988.2	508	-1.9	1.94527559
X61043	CAA43378	NP_001393	NM_001402	95	Elongation factor 1 alpha	AI008852	5992.4	3706	-1.9	1.61694549

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

BC003747	AAH03747	XP_006404	XM_006404	85n	Mus musculus, Similar to troponin T3, skeletal, fast, clone	AI136540	7250.8	4491	-1.9	1.61451792
D38556	BAA07559	NP_000845	NM_000854	78	Rattus norvegicus gene for glutathione S-transferase subunit Yrs	AI138143	2474.3	1336.3	-1.9	1.85160518
BC012522	AAH12522	AAH11890	BC011890	94n	Mouse RIKEN; Homo sapiens, Similar to electron-transferring-flavoprotein dehydrogenase	AI176422	1239.1	381.3	-1.9	3.24967217
AI176589	R5RT27	S43505	L19527	100	Ribosomal protein L27		9047.9	4769.3	-1.9	1.89711278
X52311	CAA36549	XP_032696	XM_032696	92n	Rat unr mRNA for unr protein with unknown function	AI231445	579.2	560.5	-1.9	1.03336307
AI232477	P30670	P30670	AF085709	100	G protein gamma-5 subunit		2587.9	1361.4	-1.9	1.90091083
BC003335	AAH03335	XP_003190	XM_003190	85n	Mus musculus, Similar to replication factor C (activator 1) 4	AI237756	785.3	294.7	-1.9	2.66474381
AI638958		XP_005580	XM_005580		EST (not recognized)		583.2	313.8	-1.9	1.8585086
AI639376					Homo sapiens golgi autoantigen, golgin subfamily a, 1 (GOLGA1), mRNA		762.1	400.6	-1.9	1.90239641
D14014	BAA03115	P24385	X59798	92n	Cyclin D1		3068.5	1625.5	-1.9	1.88772685
D49653	LTRT	P41159	U18915	82	Obesity (murine homolog, leptin)		24058.3	14739.3	-1.9	1.63225526
H31982					Rattus norvegicus clone RP31-223K12		1382.3	727.8	-1.9	1.89928552
J02827	AAA40811	NP_000700	NM_000709	86	Branched chain alpha-ketoacid dehydrogenase precursor		580.2	311.5	-1.9	1.86260032
L27128	AAA42110	AAC50604	U34819		Rattus norvegicus stress activated protein kinase beta isoform		2279.7	1072.8	-1.9	2.125
M36151	AAA41612	AAA59772	M81141	97	MHC class II A-beta RT1.B-b-beta gene		1111.5	589.1	-1.9	1.88677644
M64986	AAA40729	NP_002119	NM_002128	77	Amphoterin		841.7	20	-1.9	42.085
M65149	AAA40913	NP_005186	NM_005195	91	CELF		1374.7	460.1	-1.9	2.98782873
M83681	AAA41996	NP_004274	NM_004283	81	RAB16		532.8	282.4	-1.9	1.88668555
X06701	CAA29887	NP_000509	NM_000518	88	Beta-globin gene	M94918	184613.4	98427.9	-1.9	1.87562063
U11038	AAC52176	NP_002308	NM_002317	78	Lysyl oxidase	S66184	2641.7	1407.1	-1.9	1.87740743
S78215	AAB34333	NP_002699	NM_002708	72	Protein phosphatase 1 alpha		4584.1	2448.1	-1.9	1.87251338
U09793	AAB60458	NP_004976	NM_004985	100	p21		1584.9	837.4	-1.9	1.8926439
U30813				84	Aspartyl-tRNA synthetase (Psi-DRS1) pseudogene		766.6	218.4	-1.9	3.51007326
U41453	AAD03788	XP_045958	XM_045958	45	PKC binding protein and substrate		4837.4	2499.7	-1.9	1.93519222
U48246	Q62919	Q92832	D83017	92	Protein kinase C-binding protein NELL1		2374	1223	-1.9	1.94112837

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

U95001	NP_446050	NP_061967	NM_019094	93	Diphosphoinositol polyphosphate phosphohydrolase type II (Nudt4)		3927.4	2513.8	-1.9	1.56233591
X07636	A28462	LNHU2A	M11025	67	Asialoglycoprotein receptor 2		525.7	365.2	-1.9	1.43948521
AF019973	AAB72088	CAA31512	X13120	98	Neuron-specific enolase	X07729	9961.6	7507.1	-1.9	1.32695715
X53581					R.norvegicus long interspersed repetitive DNA containing 7 ORF's		8415	4526.6	-1.9	1.85901118
X63375		AAA36352	M25161	87	Beta-1 subunit of Na,K-ATPase		2277.5	1201.2	-1.9	1.89602065
NM_022540	NP_071985	NP_006784	NM_006793	84	Rattus norvegicus peroxiredoxin 3	AA799650	1098.1	611.9	-1.8	1.79457428
AA799732		Q14129	X96484	77	ESTs, Moderately similar to DGCR6 PROTEIN [M.musculus]		2235.3	1217.3	-1.8	1.83627701
AA800290					EST (not recognized)		758.9	250.9	-1.8	3.02471104
AA800772					EST (not recognized)		1076.1	1339.7	-1.8	0.80323953
AB049945	BAB40998	XP_017954	XM_017954	83n	Homo sapiens mitochondrial ribosomal protein S11	AA859788	907.7	516.9	-1.8	1.75604566
AA875500		XP_047123	XM_047123	87n	Homo sapiens KIAA1460 protein		876.4	479.3	-1.8	1.8284999
AA875665	AAH05487	AAH13436	BC013436	88n	Hypothetical protein		4994.7	2129.1	-1.8	2.34592081
AA875665	AAH05487	AAH13436	BC013436	88n	Hypothetical protein		4994.7	2129.1	-1.8	2.34592081
AA891221	NP_080580	XP_051185	XM_051185	96	Hypothetical protein		3754.8	3196.1	-1.8	1.1748068
AA891838	CAB57816	XP_043714	XM_043714	88n	Homo sapiens similar to 60S acidic ribosomal protein PO		3990.9	2228.3	-1.8	1.7910066
AA892250		XP_033978	XM_033978	89n	Homo sapiens lysyl-tRNA synthetase		2016.7	2006.2	-1.8	1.00523378
AF143955	AAD32703	XP_008114	XM_008114	86n	Coronin	AA892506	1705.5	1248.7	-1.8	1.36582045
AA892921		XP_054500	XM_054500	83n	Homo sapiens sorcin (SRI)		2594.7	1431.8	-1.8	1.81219444
AA893032					EST (not recognized)		1684.9	1188.4	-1.8	1.41778862
AA893905		XP_041716	XM_041716	84n	Homo sapiens similar to hypothetical protein FLJ22638		1175.6	453.1	-1.8	2.59457073
NM_012963	NP_037095	NP_002119	NM_002128	91	Rattus norvegicus High mobility group 1	AA944177	1746.8	986.9	-1.8	1.76998683
AF014503	AAB94673	NP_036517	NM_012385	63	p8 mRNA		1316.9	738.1	-1.8	1.78417559
AF016252	AAB72005	NP_115984	NM_032595	76	Spinophilin		2717.1	1483.8	-1.8	1.83117671
AF036761	AAB88865	AAD29870	AF097514	92	Stearyl-CoA desaturase 2		17628	8364.2	-1.8	2.10755362
AF039583	AAC77438	NP_000565	NM_000574	45	Decay-accelerating factor		9201.9	4538.6	-1.8	2.02747543
A1010371					EST (not recognized)		853.9	308.4	-1.8	2.76880674
U05821	AAC52196	NP_001405	NM_001414		Rattus norvegicus translation initiation factor eIF-2B alpha-subunit	A1031019	1584.2	635.7	-1.8	2.492056
NM_017147	NP_058843	NP_005498	NM_005507	85	Cofilin 1	A1105348	19437.2	10804.6	-1.8	1.79897451
NM_019159	NP_062032	NP_003169	NM_003178	82	Synapsin II	A1145494	828.5	433.4	-1.8	1.91162898

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

AI170379	CAC38839	AJ303079	89n	Homo sapiens mRNA for AKAP-2 protein	1834.2	1817.4	-1.8	1.00924397
AI175900	P41156	J04101	98	Transcription factor ets-1	1695.4	946.1	-1.8	1.79198816
AI176351	Q64560	M73047	96	Triptidylpeptidase II	932.2	514	-1.8	1.81361868
AI230130	g2648049	AF144748	82	Testicular ecto-ATPase	4006.8	2221.8	-1.8	1.80340265
AI639094				EST (not recognized)	527.4	24.7	-1.8	21.3522267
AF065438	AAC17177	NM_005567	67	Rattus norvegicus mama mRNA	3452.7	1938.5	-1.8	1.78111942
D10938	BAA01732	XM_006027	91	BDNF	1155.4	854.6	-1.8	1.35197753
H31964				EST (not recognized)	1385.8	783.2	-1.8	1.76940756
J02791	AAA40670	NM_000016		Acyl-Coenzyme A dehydrogenase, C-4 to C-12 straight-chain	1666.5	641.9	-1.8	2.59619878
J05030	AAA40669	NM_000017	86	Rat short chain acyl-coenzyme A dehydrogenase (SCAD)	1620.1	1884.4	-1.8	0.85974315
K02423	AAA98533	XM_030823	86	Rat fast myosin alkali light chain exon 1, specific for MLC1-f	4891.2	2719.6	-1.8	1.79849978
L08491	AAC42030	NM_000807	85	GABA-A receptor alpha-2 subunit	2190.4	1140.6	-1.8	1.92039278
M13100			92	Long interspersed repetitive DNA sequence LINE3	16447.3	9215.5	-1.8	1.7847431
M61142	g205374	Z50115	84	Metalloendopeptidase	516.1	282.5	-1.8	1.82690265
M62781	AAA53533	NM_000599	96	Rat insulin-like growth factor binding protein 5	1577.6	2478.6	-1.8	0.63648834
S66618	AAA59575	M14758	85n	Multidrug-resistance transporter P-glycoprotein	1091.5	591.3	-1.8	1.84593269
S74257			No	2c9 gene	1324.8	744.6	-1.8	1.77921031
U16025	AAA87069	X03945	Human	Rattus norvegicus class Ib RT1 mRNA	2461.1	1114.7	-1.8	2.20785862
U17607	AAA91103	D85425	67	Rattus norvegicus CCAAT binding transcription factor CBF subunit C	1031.2	213.6	-1.8	4.82771536
U26356			71	S100A1 gene	5233.5	1565.9	-1.8	3.34216744
U28975	NP_446270	S70609		Glycine transporter (GLYT-1) gene	969.9	527.6	-1.8	1.83832449
U48596	AAC52596	XM_042066	96	MAP kinase kinase 1 (MEKK1)	864	1624.9	-1.8	0.53172503
U75927		XM_004250	81	Cytochrome oxidase subunit VIIa mRNA, 3' untranslated region, partial sequence	2880.7	1616.5	-1.8	1.78206001
U90725	AAD09246	M64098	83n	Lipoprotein-binding protein	4473	2457.1	-1.8	1.82043873
X55286	P51639	M11058	97	3-hydroxy-3-methylglutaryl-Coenzyme A reductase	1664.3	710.6	-1.8	2.34210526
	RDHUE		92					

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

X56551	Q02195	P21781	A36301	90	Fibroblast growth factor 7	1720.2	360.7	-1.8	4.76906016
X60351	CAA42910	NP_001876	NM_001885	97	Alpha B-crystallin	19181.4	10581.9	-1.8	1.81266124
X70871	CAA50219	XP_017435	XM_017435	90	Cyclin G	5553.6	3505.4	-1.8	1.58429851
X71466	CAA50583	NP_004521	NM_004530	94	72 KDa type IV collagenase	3721.3	2141.6	-1.8	1.73762607
X97772	CAA66374	XP_010542	XM_010542	92	D-3-phosphoglycerate dehydrogenase	7149.9	4019.7	-1.8	1.77871483
AA799814					EST(not recognised)	915.9	536.9	-1.7	1.70590427
AA799858	P49432	BC000439	AAH00439	83n	Pyruvate dehydrogenase (lipoamide) beta	2371.4	2448.7	-1.7	0.96843223
AA799889	NP_035048	A47328	L04288	56	Natural killer tumor recognition protein (cyclophilin-related)	991.7	582.9	-1.7	1.70132098
NM_011787	NP_035917	AAD56722	AF124145	88n	Mus musculus autocrine motility factor receptor (7TM)	3862.6	2247.6	-1.7	1.71854422
NM_017092	NP_058788	AAA19236	U05682	85	Tyros3 (bruton agammaglobulinemia tyrosine kinase)	2799.1	1676.6	-1.7	1.66950972
AA874927					EST(not recognised)	8501.1	4861.8	-1.7	1.74854992
AA875198					EST(not recognised)	608.1	105.3	-1.7	5.77492877
AA875620	CAA54424	XP_004187	XM_004187	88	R.norvegicus Hsp70-3 gene (incomplete homology)	1187.1	706	-1.7	1.68144476
AA891724		XP_046863	XM_046863	89n	Homo sapiens KIAA0699 protein	1061.5	627.5	-1.7	1.69163347
NM_009671	NP_033801		AK025960		Mus musculus ankyrin repeat hooked to zinc finger motif; Human cDNA	519.8	314.4	-1.7	1.65330789
AA892146	AAA40872	XP_003009	XM_003009	93n	Carboxypeptidase B gene	3186.6	1871.1	-1.7	1.70306237
AA892520				76	EST (not recognized)	2758.2	1653.7	-1.7	1.66789623
AA892548	UBRTA	A23035	X01703	100	Alpha-tubulin	706.2	425.2	-1.7	1.66086548
AA892777	BAB26828	XP_009062	XM_009062						
NM_011962	NP_036092	NP_001075	NM_001084	84n	Rat EST; mouse hypothetical protein; human hypothetical protein	1501.8	872.6	-1.7	1.72106349
NM_011844	NP_035974			87n	Mus musculus procollagen-lysine, 2-oxoglutarate 5-dioxygenase 3	1839.5	1069.5	-1.7	1.7199626
NM_010575	NP_034705	CAA29987	X06831	No Human	Mus musculus monoglyceride lipase	4402.1	2640.6	-1.7	1.66708324
AA893749				84n	Mus musculus integrin alpha 2b	3197.1	2307.4	-1.7	1.38558551
AA893933					EST (not recognized)	7128.9	4144.2	-1.7	1.72021138
BC003431	AAH03431	XP_032282	XM_032282		EST (not recognized)	2267.9	229.1	-1.7	9.89917067
NM_019147	NP_062020	NP_002217	NM_002226	83n	Mus musculus, serine protease inhibitor, Kunitz type 2	2625.5	2294.6	-1.7	1.14420814
				54	Rattus norvegicus jagged 1 (Jag1)	5392.3	3244.4	-1.7	1.66203304

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

AA925506	I56580	JW0050	AB010414	94	Guanine nucleotide binding protein (G protein), gamma 7 subunit	1285.1	742.1	-1.7	1.73170732
U03490	AAB60489	XP_015728	XM_015728	86n	Phosphocholine cytidyltransferase	813.5	489.1	-1.7	1.66325905
L18891	AAA41637	No human with high enough homology							
NM_017187	NP_058883	NP_002120	NM_002129	95n	Rattus norvegicus intercellular calcium-binding protein (MRP8)	4329.2	2148.1	-1.7	2.01536241
S67755	AAB29536	NP_001531	NM_001540	91	Rattus norvegicus high mobility group protein 2	2607.1	1143.4	-1.7	2.28012944
AB011528	BAA32459	XP_042739	XM_042739	82	Rattus norvegicus heat shock protein 27	6673.2	3322.2	-1.7	2.00866895
AB020504	BAA34715			63	MEGF2	1032.6	604.5	-1.7	1.70818859
AF006664	AAB62696	P52952	U34962	Human too low	PMF31	2277.1	1370.6	-1.7	1.66138917
AF034896	AAD01991	NP_039229	NM_013941	87	Rattus norvegicus tinman homolog (NKx-2.5) mRNA, complete cds	2984.5	4111.5	-1.7	0.72589079
AF036335	AAD05362	P23246	XM_051944	57	Olfactory receptor-like protein (SCR D-8)	1871.9	1093.7	-1.7	1.71152967
AF056324	AAC29479	NP_002958	NM_002967	96	Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds	1916.5	1117	-1.7	1.71575649
AF072411	AAC24876	XP_034144	XM_034144	74	Scaffold attachment factor B	1237.4	741.4	-1.7	1.66900459
AF080468	AAC79839	NP_001458	NM_001467	84	Fatty acid translocase/CD36 mRNA	767.6	456.1	-1.7	1.68296426
AF089839	AAC63035	XP_012637	XM_012637	93	Rattus norvegicus putative glycogen storage disease type 1b protein // glucose-6-phosphatase	2489.9	1427.3	-1.7	1.74448259
AF096291	AAC64200	AAB09055	U59747	96	N-ethylmaleimide sensitive factor mRNA	608	362.2	-1.7	1.67863059
M27315				83	Bcl-w	1968.2	1163.3	-1.7	1.69191094
X57228	CAA40505	NP_057535	NM_016451	95	Mitochondrial Genome	76787.6	40574.5	-1.7	1.89250884
A1136977	S14538	A46372	M88279		Rat mRNA for beta COP	777.1	978.5	-1.7	0.79417476
X07266	CAA30252	NP_061821	NM_018948	87	ESTs, Highly similar to P59	5396.1	2497	-1.7	2.16103324
A1176052	JQ1945	Q9UIJ7	AB021870	74	PROTEIN [M.musculus]	819.3	484.4	-1.7	1.69137077
Z78279	CAB01633	AAB27856	S64596	89	Rat mRNA for gene 33 polypeptide	2646.4	1586.3	-1.7	1.66828469
AF032120	AAC69268	NP_005707	NM_005716	84	Adenylate kinase 3	46998.2	28427.5	-1.7	1.65326532
					Collagen alpha1 type I				
				84	GLUT1 transporter C-terminal binding protein	9752.8	5787.1	-1.7	1.6852655
A1639347				84	EST (not recognized)	4824.5	2800.6	-1.7	1.72266657
AJ005984	CAA06798	NP_004427	NM_004436	80	Alpha-endosulfine	2723	1574.9	-1.7	1.72899867

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

AJ007628	CAA07587	XP_008403	XM_008403	74	ELK channel 1	2936.4	1738.4	-1.7	1.68913944
D00688	BAA00592	NP_000231	NM_000240	82	Monoamine oxidase A	2275.9	1356.1	-1.7	1.67826856
D49395	BAA08388	NP_000860	NM_000869	82	Serotonin 5-HT3 receptor	3331.9	1190.1	-1.7	2.7996807
D85435	BAA36277	AAK97528	AF408198	71	Protein Kinase C delta-binding protein	2699	1633.9	-1.7	1.65187588
D90211	BAA14236	NP_002285	NM_002294	58	96 Kd lysosomal membrane glycoprotein	4755.6	2842.1	-1.7	1.67326977
L03294	Q06000	LIHUL	M15856	92	Lipoprotein lipase	1752.9	1171.3	-1.7	1.4965423
L13201	AAA74561				HNF-3/forkhead homolog-1	1219	463.1	-1.7	2.63226085
L28801	A56011	I38414	U02619	77	Rat transcription factor IIC alpha-subunit mRNA, complete cds	10807.1	6497.4	-1.7	1.66329609
L41685	AAB05843	XP_009229	XM_009229	88	Rattus norvegicus (clone REM3) ORF mRNA, partial cds	7107.6	4250.1	-1.7	1.67233712
M13100					Long interspersed repetitive DNA sequence LINE3	3161.2	1881.8	-1.7	1.67988097
M15523	AAA41877	NP_005391	NM_005400	83	Rat protein kinase C-family related mRNA, partial cds, clone RP16	2575.5	1574.4	-1.7	1.63586128
M17412	AAA42232	NP_055182	NM_014367	77	Growth and transformation-dependent protein	3859.4	2279	-1.7	1.69346204
M22670	AAA41592	NP_000005	NM_000014	70	Alpha-2-macroglobulin	1358.9	822.4	-1.7	1.65235895
M36421	AAA41246	CAA41491	X58633	62	Rat glutamate receptor (GluR-D)	1015.2	352.3	-1.7	2.88163497
M64797	AAA41163	NP_004558	NM_004567		6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 4	4597.4	871.9	-1.7	5.27285239
M93257				No Human	Cathechol-O-methyltransferase, 3' flank	5819.1	3445.4	-1.7	1.68894758
M96630	AAA42125	XP_043841	XM_043841	100	Homologue to sec61	1861.4	1102.8	-1.7	1.68788538
S58644	AAB26278		No human		Integrin beta 5 subunit	10787.3	6301.6	-1.7	1.71183509
S71570	AAB30670	XP_044348	XM_044348	97	Ca2+/calmodulin-dependent protein kinase II isoform gamma-b	7036.9	4256.5	-1.7	1.65321273
S75280	AAB33049	XP_038637	XM_038637	92	Rattus sp. pre-mtHSP70 mRNA	1304.1	324.4	-1.7	4.02003699
S75359	AAB33865	NP_004320	NM_004329	95	Bone morphogenetic protein type IA receptor	629.8	374.4	-1.7	1.68215812
U02522	AAA82722	NP_004680	NM_004689	89	Mta1 (metastasis associated protein)	687.5	401	-1.7	1.71446384
U14192	AAA62632	NP_003706	NM_003715	83	General vesicular transport factor p115	2293.3	1924.8	-1.7	1.19144846
U24282	AAC52241	P55073	S79854	94	Rattus norvegicus type III iodothyronine deiodinase (diolI) mRNA	5322.4	4626.5	-1.7	1.15041608

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U26397	AAB01069	NP_004018	NM_004027	93	Inositol polyphosphate 4-phosphatase	2449.2	1468.2	-1.7	1.6681651
U52103	AAB03281	XP_011864	XM_011864	92	Rattus norvegicus rCRMP-3 mRNA, partial cds	1908	1124.7	-1.7	1.69645239
U55815	AAC52634	NP_005063	NM_005072	87	Furosemide-sensitive K-Cl cotransporter	892.1	518.9	-1.7	1.71921372
U72741	P97840	O00182	AB006782	73	Lectin, galactose binding, soluble 9 (Galectin-9)	2183.6	658.2	-1.7	3.31753266
U77583	AAB19228	XP_046995	XM_046995	83	Casein kinase I alpha L	2378.7	1427.8	-1.7	1.66598963
M13101					Rat long interspersed repetitive DNA sequence LINE4	9953.7	5879.4	-1.7	1.69297888
U88036	g2738223	P46721	U21943	72	Brain digoxin carrier protein	2146.5	1291.7	-1.7	1.66176357
U90610	AAB50408	CAA12166	AJ224869	90	CXC chemokine receptor (CXCR4) mRNA	4138.2	2371.2	-1.7	1.74519231
U95052		NP_001409	NM_001418	98	Translation repressor NAT1 mRNA, partial 3'UTR	13013.1	7838.5	-1.7	1.66015181
X05472					Rat 2.4 kb repeat DNA right terminal region	1956.4	1123.6	-1.7	1.74118904
X06554	CAA29797	NP_002352	NM_002361	84	Myelin-associated glycoprotein (S-MAG) C-term	8012.3	3402.4	-1.7	2.35489654
X12589	CAA31102	XP_006987	XM_006987	84	Voltage-dependent potassium channel protein	7941.8	4766.4	-1.7	1.6662051
X56325	CAA39764			No Human	2-alpha-1 globin gene	333391.3	175617	-1.7	1.89839993
X77934	CAA54906	NP_001633	NM_001642	79	Amyloid precursor-like protein 2	2482.6	1432.8	-1.7	1.73269123
X95986	CAA65230	NP_001748	NM_001757	83	CBR gene	779.8	446.7	-1.7	1.74569062
Y00350	CAB50784	XP_046565	XM_046565	82	Uroporphyrinogen decarboxylase	2164.7	1246.6	-1.7	1.73648323
Y13413	CAA73837	BAA35188	AB018247	91	Rattus norvegicus mRNA for Fe65L2 protein	1681.7	100.9	-1.7	16.666997
Z78279	CAB01633	AAB27856	S64596	84	Collagen alpha1 type I	28544.1	16544.6	-1.7	1.72528197
AA799473					EST(not recognised)	5190.9	3267.8	-1.6	1.58849991
AA799819					EST (not recognised)	5610.1	4139.6	-1.6	1.35522756
AA800680	BAB28231				EST (mouse hypothetical protein)	4003.9	2518.6	-1.6	1.58973239
AA800684	PT0198	OKHULK	X06369		ESTs, Moderately similar to TYROSINE-PROTEIN KINASE LYN [R.norvegicus]	1698.6	1046	-1.6	1.62390057
BC004055	AAH04055	XP_011894	XM_011894	93	Homo sapiens supervillin (SVIL)	2777.3	1709.3	-1.6	1.62481718
AA859897		XP_007325	XM_007325	87	Homo sapiens sel-1 (suppressor of lin-12, C.elegans)-like	709.4	449.5	-1.6	1.578198
AA859994			AL110126	92	Human cDNA	709.1	365.9	-1.6	1.93796119

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AA875037	S19896	P50453	L40378	76	ESTs, Weakly similar to PLASMINOGEN ACTIVATOR INHIBITOR-2, TYPE A [R.norvegicus]	620.6	2129.6	-1.6	0.29141623
AA875414 NM_031026	NP_112288	NP_006132	NM_006141	90	EST (not recognized) Rattus norvegicus LIC-2 dynein light intermediate chain 53/55	1038	663.5	-1.6	1.56443105
AA891737 NM_025296	NP_079572	XP_051882	XM_051882	87n	EST (not recognized) WD40 protein	699.5	726.8	-1.6	0.96243808
AA892234					EST (not recognized)	2248.8	1144.2	-1.6	1.96539067
AA892768		XP_034289	XM_034289		EST (not recognized) Homo sapiens putative breast adenocarcinoma marker (32kD) (BC- 2)	2008.9	1243.5	-1.6	1.61552071
					EST (not recognized)	22453.4	14227	-1.6	1.5782245
AA893443	AAA92787	NP_056461	NM_015646	91n	EST (not recognized)	2334.3	1417.4	-1.6	1.64688867
AA893607				86	Rap1B	4190.3	2301.9	-1.6	1.82036578
AA893708					EST (not recognized)	1186.3	719.7	-1.6	1.64832569
AA893777					EST (not recognized)	4238.3	2593.7	-1.6	1.63407487
X00525			M11167	93n	EST (not recognized)	1349.7	622.9	-1.6	2.16680045
AA899106					Mouse 28S ribosomal RNA	10682.1	6845.4	-1.6	1.56047857
X06801	CAA29957	NP_001604	NM_001613	100	EST (not recognized)	1167.7	736.8	-1.6	1.58482628
AA944073		Not high enough human homology to include			Rat mRNA for vaskular alpha-actin	2982.4	2029.7	-1.6	1.46937971
AA946532	P16970	M81182	M81182		R.norvegicus mRNA for ribosomal protein L41	16178.5	9837.8	-1.6	1.64452418
L14936	AAA41620	NP_109587	NM_030662	95	ATP-binding cassette, sub-family D (ALD), member 3	14485.8	8790.1	-1.6	1.6479676
AA963447		XP_034848	XM_034848	86	MAP kinase kinase (MKK2)	5233.8	2645.4	-1.6	1.97845316
X65497	CAA46478	XP_037275	XM_037275	96n	Homo sapiens phosphatase and tensin homolog	1112.7	679.7	-1.6	1.63704576
AB016800	BAA34306	XP_006067	XM_006067	87n	R.norvegicus mRNA for poly(ADP- ribose) polymerase	2533.7	1573	-1.6	1.6107438
AF003835	AAC53282	NP_004499	NM_004508	82	7-dehydrocholesterol reductase	1953.9	1223.7	-1.6	1.59671488
				82	isopentenyl-diphosphate delta isomerase	6614.8	2823.6	-1.6	2.3426831
AF017437	AAB70273	NP_001768	NM_001777	62	Integrin-associated protein	685.6	419.7	-1.6	1.63354777
AF036255	AAC17997	NP_006449	NM_006458	97	RING finger protein	1354	822.5	-1.6	1.64620061
AF048687	AAC24515	XP_008799	XM_008799		UDP-Gal:glucosylceramide beta-1,4- galactosyltransferase; beta-1,4- galactosyltransferase				
				91		1300.4	798	-1.6	1.62957393

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AF055292	AAC12759	XP_043113	XM_043113	90	Signal transducer and activator of transcription 6 (stat6)	2816.8	1425	-1.6	1.97670175
AF062594	AAC67388	NP_004528	NM_004537	57	Nucleosome assembly protein	4889.1	2939.2	-1.6	1.59536609
AF087696	AAC78484	CAB66489	AL136554	97	dlg 2 mRNA, partial cds	1532.5	1101.8	-1.6	1.39090579
AF093268	AAC71032	NP_004263	NM_004272	90	Homer-1c	566.1	360.9	-1.6	1.56857855
AF100421	AAC72405			No	LYRIC mRNA	1178.4	716.3	-1.6	1.64512076
BC012408	AAH12408	AAH03552	BC003552	89n	Similar to Calnexin	12194.4	7668	-1.6	1.59029734
AF000944	AAB58717	NP_004483	NM_004492	99	TFIIA small subunit mRNA	2128.8	1361.1	-1.6	1.56402909
NM_012734	NP_036866	NP_277032	NM_033497	91	Hexokinase 1	12557.9	6986.8	-1.6	1.79737505
NM_010887	NP_035017	NP_002486	NM_002495	83	Mus musculus NADH dehydrogenase (ubiquinone) Fe-S	4547.1	2279.9	-1.6	2.03829115
AI030175	P27867	Q00796	L29008	82	Sorbitol dehydrogenase	2299.9	1437.5	-1.6	1.59993043
L22079		AAH15065	BC015065	88n	SCAMP 37	1209.2	740.6	-1.6	1.63273022
AF117340	AAD25049			No	Mus musculus MAP kinase kinase 1	1638.9	1040.1	-1.6	1.57571387
NM_031099	NP_112361	NP_000960	NM_000969	Human	Rattus norvegicus ribosomal protein L5	666.8	135.1	-1.6	4.93560326
AI104513	P11240	P20674	M22760	92					
NM_017172	NP_058868	XP_031094	XM_031094	86	Rat CoxVa mRNA for mitochondrial cytochrome c oxidase subunit Va	1318.1	1032.1	-1.6	1.27710493
AI137790	Q05310	AAD44484	AF078852	78	Rattus norvegicus butyrate response factor 1	4385.4	2722.3	-1.6	1.61091724
M15254	AAA41832	NP_002610	NM_002619	84	R. norvegicus mRNA from Leydig cell hypercalcemic tumour H-500	2039	1294.3	-1.6	1.57536893
M26594	AAA41563	AAB01380	L34035	61	Rat platelet factor 4	4673.3	2844.1	-1.6	1.64315601
AI177256	NP_112356	CAA53661	X76061	88	Rattus norvegicus malic enzyme (MAL) gene	989.2	608.7	-1.6	1.62510268
NM_031094	NP_058908	NP_058518	NM_016834	81	EST (not recognized)	3990	2425.8	-1.6	1.6448182
NM_017212	NP_062065	CAA77836	Z11793	74	Rattus norvegicus retinoblastoma-like 2 (p130)	1841.1	1090.3	-1.6	1.68861781
NM_019192				62	Rattus norvegicus microtubule-associated protein tau	21234.3	13506.5	-1.6	1.57215415
AI639125					Selenoprotein P, plasma, 1	1982.9	1757.9	-1.6	1.12799363
AI639200					EST (not recognized)	1712.7	850.7	-1.6	2.01328318
AI639225					EST (not recognised)	929.5	575	-1.6	1.61652174
AI639294					EST (not recognised)	2045	1293.3	-1.6	1.58122632
AI639381					EST (not recognised)	76817.3	47739.4	-1.6	1.60909647
AI639391			AL138478	88n	EST	1969.1	1238.4	-1.6	1.59003553
					EST (not recognized)	4424.1	2969.1	-1.6	1.49004749

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[illegible]

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	AAA42260	No human with high enough homology			Rat transition protein 1 mRNA, complete cds					
M17096										
M26161	P10499	Q09470	L02750				843.9	-1.6	656.3	0.77769878
M57728	AAA41632	XP_054752	XN_054752	97	Rattus norvegicus potassium channel protein mRNA, complete cds		943.3	-1.6	2114.5	2.24159864
M80826	AAA42270	BAA95531	AP001746	83	Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end		917.8	-1.6	1477.2	1.60950098
M83107	AAA40762	XP_006432	XM_006432	68	Intestinal trefoil protein		931.7	-1.6	1524.9	1.63668563
M92340		XP_042068	XM_042068	97	SM22		684.7	-1.6	1082.6	1.58113042
M99567	AAK14906	XP_048298	XM_048298	83n	Rat (clones rLG[08,14,25]) interleukin 6 signal transducer mRNA		1104	-1.6	1520.1	1.37690217
S50879	AAB24586	NP_000656	NM_000665	83	Phospholipase C beta-3 mRNA, partial cds		1302.4	-1.6	2124.7	1.63137285
S73007	AAB20688	NP_000336	NM_000345	82	Acetylcholinesterase T subunit		1160.1	-1.6	2235.1	1.92664425
S75435	AAB32520	AAA61110	M16768	73	Synuclein SYN1		3937.2	-1.6	7893.9	2.00495276
S78556	AAB34982	XP_038637	XM_038637	46	TCR gamma C4L=T-cell receptor gamma chain		3961.6	-1.6	6223.5	1.57095618
S81353	AAB36042	NP_037145	NM_013013	93	75 kda glucose regulated protein		3884.7	-1.6	6233.1	1.60452545
U03120	AAA19015	NP_037165	NM_013033	94	Sulfated glycoprotein-1		13827.8	-1.6	22254	1.60936664
U04738	AAA17519	XP_009594	XM_009594	84	Sodium-glucose cotransporter 1		1898.3	-1.6	3117.7	1.64236422
U11694	AAA91779	AAA60131	J03280	83	Major hippocampal somatostatin receptor		2285.3	-1.6	2598.2	1.13691857
U11419	AAA50554	NP_000824	NM_000833	81	Rattus norvegicus WKY and SHRSP phenylethanamine N-	U11275	1677.9	-1.6	1631.9	0.97258478
U18314	AAC52209	AAB60330	U09087	52	methyltransferase (PNMT) gene glutamate receptor		1305.9	-1.6	3948.7	3.02373842
U19893	JC7186	XP_029443	XM_029443	79	Lamina associated polypeptide 2 (LAP2)		559.8	-1.6	892.4	1.59414076
J05517	AAA37210	AAH10568	BC010568	98	Alpha actinin 4		1931.8	-1.6	3075.7	1.59214204
U30485	AAC52981	NP_001340	NM_001349	87(mus)	Mouse aldolase A gene	U20643	25938.5	-1.6	40827	1.57399233
U36482	AAC15239	NP_006808	NM_006817	94	Aspartyl-tRNA synthetase (DRS1) gene		9683.5	-1.6	15613.4	1.61237156
U44948	AAC52554	NP_001312	NM_001321	91	endoplasmic reticulum protein ERp29 precursor		1707.7	-1.6	2757.9	1.61497921
				88	Rattus norvegicus smooth muscle cell LIM protein		1105.1	-1.6	1735.1	1.57008416

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U57042	AAB03110	AAB50235	U90339	90	Adenosine kinase mRNA	3737.3	2403.4	-1.6	1.55500541
U69673	AAC52896	XP_002447	XM_002447	74	Tyrosine phosphatase 20	956.1	1255.1	-1.6	0.76177197
U75393	AAF88164	Homology too low for human			Succinyl-CoA synthetase alpha subunit mRNA nuclear gene encoding mitochondrial protein, partial cds and 3' untranslated sequence				
NM_012551	NP_036683	NP_001955	NM_001964	72	Krox-24 mRNA, 3' untranslated region, partial sequence	4859.8	2436.8	-1.6	1.99433684
U75929				No Human	SPARC mRNA, 3' untranslated region, partial sequence	831.8	514.7	-1.6	1.61608704
U75973	AAC53423	XP_027086	XM_027086	86	NAAAG-peptidase	5380.2	3270.4	-1.6	1.64511986
U88324	AAD00650	NP_002065	NM_002074	95	G protein beta1 subunit (rGb1) mRNA	1474.2	519.7	-1.6	2.83663652
X00722			M11167	96n	Rat 32S pre-rRNA 5'-terminal part with 28S rRNA sequence	30804.5	19786.6	-1.6	1.55683644
X15705	CAA33735	AAD11466	U56725	90	HST protein (AA 1-633)	5945.5	3762.8	-1.6	1.58007335
X53504	CAA37581	NP_000967	NM_000976	99	Ribosomal protein L12	2521	1549.2	-1.6	1.62729151
X53581					R.norvegicus long interspersed repetitive DNA containing 7 ORF's	14415.8	9018.3	-1.6	1.59850526
X57988	CAA41054	NP_000309	NM_000318	88	Peroxisome assembly factor-1	4575.6	2106.9	-1.6	2.17172149
X61381	CAA43655	AAH06794	BC006794	65	Interferon induced mRNA	609.3	378.4	-1.6	1.61020085
X62660	CAB46530	NP_000838	NM_000847	56	Glutathione transferase subunit 8	7790.8	4822	-1.6	1.61567814
X68199	CAA48287	NP_005370	NM_005379	59	MYR1 mRNA for myosin I heavy chain	813.8	20	-1.6	40.69
X83399	CAA58316	NP_001959	NM_001968	99	eIF-4E	896.5	544.2	-1.6	1.64737229
X89383	CAA61563	XP_046267	XM_046267	90	SNF1-related kinase	1391.8	895.9	-1.6	1.5535216
X89963	CAA62002	NP_003239	NM_003248	83	TSP-4 protein	842.7	534	-1.6	1.57808989
Y09507	CAA70701	XP_050771	XM_050771	85	Hypoxia-inducible factor 1	934.6	573.6	-1.6	1.62935844
Z15123		Homology too low for human			S-adenosylmethionine decarboxylase gene, exons 4-8	862.5	542	-1.6	1.59132841
Z78279	CAB01633	AAB27856	S64596	84	Collagen alpha1 type I	1969.6	1249	-1.6	1.57694155
X14210	CAA32427	NP_000998	NM_001007	100	Rat mRNA for ribosomal protein S4	44177.8	24793.4	-1.6	1.7818371
NM_013908	NP_038936			No Human	Mus musculus f-box and WD-40 domain protein 5	3727.8	2515.8	-1.5	1.48175531
X87107	CAA60588	AAH04138	BC004138	77	R.norvegicus mRNA for ribosomal protein L6	2914.4	1556.4	-1.5	1.87252634
NM_009087	NP_033113	XP_040640	XM_040640	92n	Mus musculus RNA polymerase 1-3 cDNA, RIKEN	38074.1	26186.7	-1.5	1.453948
AA799773						759.9	502.7	-1.5	1.51163716
						2027.2	1316.5	-1.5	1.53984049

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AF145716	AAF34244	XP_045690	XM_045690	87	Mus musculus SCHIP-1 mRNA	AA800036	1811	1238.8	-1.5	1.46189861
J02650	AAA42071	NP_000972	NM_000981	72	Rattus norvegicus ribosomal protein L19	AA800054	38194.8	25392.2	-1.5	1.5041942
AF364071	AAK50399	NP_055147	NM_014332	81	Rattus norvegicus SMPX protein	AA800221	779.8	535.4	-1.5	1.45648114
AA800535		T47144			ESTs, Weakly similar to T47144					
AA800686				29	hypothetical protein		2286.3	936.3	-1.5	2.44184556
NM_012899	NP_037031	BAA13198	D86962	88n	DKFZp761E1347.1 [H.sapiens]		1819.2	1111.6	-1.5	1.63655991
X14848					Similar to growth factor receptor-binding protein Grb10		597.8	409.4	-1.5	1.46018564
AA800850		NP_005171	NM_005180	85	Delta - aminolevulinic acid dehydratase (Alad)	AA800745	171420.7	117691.9	-1.5	1.4565208
X14848					Rattus norvegicus mitochondrial genome	AA800849	2173.5	1265.5	-1.5	1.71750296
NM_008568	NP_032594	XP_036806	XM_036806	87n	murine leukemia viral (bmi-1) oncogene homolog (BML1), Rattus norvegicus mitochondrial genome	AA858636	2430.2	1635.7	-1.5	1.48572477
AA859680					Mini chromosome maintenance deficient 7		1577.3	1050.9	-1.5	1.50090399
AA859757					EST (not recognized)		4501.6	3092.9	-1.5	1.45546251
AA859804		JQ1037	M76477	74	EST (not recognized)		6171.8	4090.4	-1.5	1.50884999
					ESTs, Highly similar to SAP3					
AA859909					GANGLIOSIDE GM2 ACTIVATOR		1987.3	1354.8	-1.5	1.46685858
AA859933					PRECURSOR [M.musculus]		868.3	579	-1.5	1.49965458
AA866248					EST (not recognized)		897	526.2	-1.5	1.70467503
AA866364					EST(not recognised)		8953.9	4750	-1.5	1.88503158
AA866439					EST (not recognized)		3499	2310.2	-1.5	1.51458748
X66209	CAA46960				EST (not recognized)		5724.7	3913.1	-1.5	1.46295776
S81497	AAB36043	AAB60328	U08464	72	Rat alpha-2(I) promoter (I)	AA866454	2973.5	2703.2	-1.5	1.0999926
D88315	BAA22622	XP_051905	XM_051905	81(mus)	Lysosomal acid lipase	AA874784	3631.8	923.6	-1.5	3.93222174
NM_025296	NP_079572	XP_057061	XM_057061	87n	Mouse mRNA for tetracycline transporter-like protein	AA891535	2506.1	1140.3	-1.5	2.19775498
AF219141	AAG37102	XP_030289	XM_030289	88n	Mus musculus WD40 protein C1a01	AA891829	2498	1654.9	-1.5	1.50945676
AA891877					Mus musculus nuclear ATP/GTP-binding protein	AA891854	4336.1	2963.9	-1.5	1.46297109
AA892325		XP_001428	XM_001428		Mus musculus 18 days embryo cDNA, RIKEN		1993.6	1314.9	-1.5	1.51616092
				85n	Homo sapiens choline/ethanolaminephosphotransferase		895.2	826	-1.5	1.08377724

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AA892378	NP_079838	XP_051242	XM_051242	89n	Homo sapiens CGI-135 protein (LOC51024); Also listed is Rat EST and mouse hypothetical protein		2138	1469.8	-1.5	1.45461968
AK004841	BAB23608			92n	Mouse RIKEN	AA892789	3489.8	2033.8	-1.5	1.71590127
AA892863					EST (not recognized)		723.7	638.2	-1.5	1.13397054
BC009127	AAH09127			89n	Mouse RIKEN	AA892937	2252.3	1472.5	-1.5	1.52957555
AK013971				84n	Mouse RIKEN	AA893208	2838.5	1885.1	-1.5	1.50575566
AA893641	Q9QXQ7	P41221	L20861		ESTs, Highly similar to WNT-5A PROTEIN PRECURSOR [R.norvegicus]					
X78606	CAA55340	NP_004240	NM_004249	98	R.norvegicus (Sprague Dawley) rab28	AA893673	2260.5	1490.2	-1.5	1.51691048
AA894212				88	EST (not recognized)		1145.9	759.8	-1.5	1.50816004
NM_017033	NP_058729	XP_046816	XM_046816	94n	Phosphoglucumutase 1	AA894296	2340.4	4322.7	-1.5	0.54142087
NM_012520	NP_036652	Homology too low for human				AA926149	4412	3504.9	-1.5	1.2588091
AA946439	P02304	P02304	X00038	100	Catalase		1104.4	749.4	-1.5	1.4737123
AA955477	CAA54183	AAH10407	BC010407		H4 gene for somatic histone H4		2228.9	1100.2	-1.5	2.02590438
					ESTs, Moderately similar to S78100 MAPK-activated protein kinase (EC 2.7.1.-) 2 - mouse (fragment) [M.musculus]		5516.1	1202.6	-1.5	4.58681191
NM_017141	NP_058837	NP_002681	NM_002690	88n	Rattus norvegicus DNA polymerase beta	AA957640				
AA958274				95	EST (not recognized)		5310.6	3601	-1.5	1.47475701
AB000098	BAA24351	XP_009784	XM_009784	54	MIPP65		616.5	979.2	-1.5	0.62959559
AB000517	BAA22085	XP_003308	XM_003308	86	CDP-diacylglycerol synthase		9399.4	4003.1	-1.5	2.34803028
AB005143	BAA28832	NP_003346	NM_003355	95	Uncoupling protein 2		1827.5	1186.6	-1.5	1.54011461
AB006607	BAA24366	NP_005189	NM_005198	84	Choline/ethanolamine kinase		5601.8	3628.5	-1.5	1.54383354
AF000423	AAB58344	AAH04291	BC004291	89	Synaptotagmin XI		2200.9	1738.2	-1.5	1.26619491
AF001953	AAB59974	AAG18444	AF300650	99	G protein beta 5 subunit		1752.5	1154.3	-1.5	1.50519626
AF003825	AAD09310	AAB61922	U93703	91	GDNF receptor-beta		818.2	541	-1.5	1.51238447
AF007758	AAC16026	NP_000336	NM_000345	73	Synuclein 1		3274.4	2174.1	-1.5	1.50609448
AF007758	AAC16026	NP_000336	NM_000345	73	Synuclein 1		13291.7	8760.7	-1.5	1.51719611
AF009329	AAB63586	NP_110389	NM_030762		Enhancer-of-split and hairy-related protein 1		2902.5	4162.8	-1.5	0.69724705
AF020756	AAB94570	AAD42947	AF109387	67			2198.7	915.5	-1.5	2.40163845
AF044574	AAD02333	NP_065715	NM_020664	74	P2X2-3 receptor		7734.2	5329	-1.5	1.45134172
				83	Putative peroxisomal 2,4-dienoyl-CoA reductase		1056.5	689.3	-1.5	1.53271435
AF047707	AAD02464	NP_003349	NM_003358	95	UDP-glucose:ceramide glycosyltransferase		2400	1554	-1.5	1.54440154

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AF061971	AAC16003	NP_005146	NM_005155	87	Palmitoyl-protein thioesterase (PPT-2)	9408.3	6219.9	-1.5	1.51261274
AF076183	AAC31815	XP_006499	XM_006499	90	Cytosolic sorting protein PACS-1a	2152	1397.1	-1.5	1.54033355
AF090867	AAC78657	AAH08281	BC008281	92	Guanosine monophosphate reductase	599.5	411.3	-1.5	1.45757355
AF092450	AAC62110	NP_005447	NM_005456	80	JIP-1 related protein (JRP)	1684.1	1140.4	-1.5	1.47676254
AF096269	AAC79495	XP_045055	XM_045055	77	EH domain binding protein epsin 2	4547.2	2982	-1.5	1.52488263
AF104362	AAD04570	NP_005005	NM_005014	75	Osteoadherin	917.1	594.9	-1.5	1.54160363
NM_012838	NP_036970	NP_000091	NM_000100	78	Rattus norvegicus Cystatin beta	10772.9	7249	-1.5	1.48612222
AI071435					Rattus norvegicus Sacm21/RT1-A intergenic region, haplotype RT1n and partial RT1-A gene for MHC Class I antigen				
AI136891	P17431	Q07352	CAA55670	98	Butyrate response factor 1	1563.9	1036.8	-1.5	1.5083912
NM_012570	NP_036702	NP_005262	NM_005271	92	Glutamate dehydrogenase	6923.2	4917.6	-1.5	1.40784122
BC006921	AAH06921	XP_002273	XM_002273	98(mus)	Mus musculus, inhibitor of DNA binding 2	3123.4	2056.7	-1.5	1.51864638
Y07744	CAA69024	NP_005467	NM_005476	93	UDP-N-acetyl-D-glucosamine-2-epimerase	1723.4	967.2	-1.5	1.7818445
X16956	CAA34830	AAA51811	M17986	72	Rat mRNA for beta-2-microglobulin	1847.8	825.9	-1.5	2.23731687
S75435	AAB32520	AAA61110	M16768	46	TCR gamma C4L=T-cell receptor gamma chain	17154.4	11782.3	-1.5	1.45594663
AF369384	AAK53428	NP_002749	NM_002758	97	Mitogen-activated protein kinase kinase 6	4663.5	3204.3	-1.5	1.45538807
AF237622	AAF73953	XP_040744	XM_040744	93n	Mus musculus acetyltransferase	2941.3	1998.4	-1.5	1.47182746
Y16641	CAA76339	Homology too low for human			Tubedown-1	1344.7	895.7	-1.5	1.50128391
NM_020075	NP_064460	NP_001960	NM_001969	80	Rattus norvegicus mRNA for hnRNP protein	2127.2	1432.6	-1.5	1.48485272
X16417	CAA34439	NP_000509	NM_000518	81	Rattus norvegicus eukaryotic initiation factor 5	1464.8	996.7	-1.5	1.46964984
AI179916	NP_064464	XP_018277	XM_018277	94n	Rat mRNA for beta-globin	211405.1	145499.8	-1.5	1.45295801
NM_020079	NP_064464	CAA38264	X54393	28	Homo sapiens similar to PNAS-106	2293.5	1534.1	-1.5	1.49501336
U07683	AAA50212	AAC50565	U30930	93	Rattus norvegicus Prolactin-like protein C	1106.4	713.6	-1.5	1.55044843
BC004827	AAH04827	Homology too low for human			Rattus norvegicus UDP-galactose:ceramide galactosyltransferase	10596.6	7218.4	-1.5	1.46799845
AK004782	BAB23560				Similar to phosphoserine aminotransferase	2597.1	1409.9	-1.5	1.84204554
					Mouse RIKEN	1067	701.5	-1.5	1.52102637

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BC002124	XP_056180	XM_056180	96n	Mus musculus, Similar to RNA binding motif protein 9	AI638955	3114.8	2114.9	-1.5	1.47278831
AI639112	BAB19683	AB044807	77(mus)	EST(not recognised)	AI639123	994.5	658.3	-1.5	1.5107094
NM_007704	NP_055070	NM_014255	88n	Mus musculus channel-interacting PDZ domain protein	AI639149	1479.3	996.6	-1.5	1.48434678
U13371	NP_064337	NP_053842	89n	Mouse Clone	AI639208	1166.3	768.4	-1.5	1.51782926
NM_019953	XP_053842	XP_053842	88n	Mus musculus transmembrane protein 4	AI639255	1855.3	1208.7	-1.5	1.53495491
NM_028785	XP_053842	XP_053842	89n	Mouse RIKEN	AI639518	4324.4	2815	-1.5	1.53619893
AI639372	AAH00739	BC000739	88n	Homo sapiens KIAA0854 protein		3386.3	1385.6	-1.5	2.44392321
AI639387	NP_006076	NP_006085	91	EST(not recognised)		1045.9	715.9	-1.5	1.46095823
BC002306	CAA04022	CAA04022	91	Mus musculus, Similar to CG11246 gene product		5007.1	3439.3	-1.5	1.45584857
AJ000347	XP_042309	XP_042309	91	Rattus norvegicus mRNA for 3'(2'),5'-bisphosphate nucleotidase		3080.5	2085.7	-1.5	1.47696217
AJ007291	XP_008403	XP_008403	61	CAP1 gene		15227	10082	-1.5	1.51031541
AJ007632	XP_051781	XP_051781	95	ELK channel 3		1821.8	1246.4	-1.5	1.46164955
D10699	BAA01572	BAA01572	93	Ubiquitin carboxyl-terminal hydrolase		74133	50093.7	-1.5	1.47988669
D10729	BAA02059	BAA02059	91	Proteasome subunit RC1		1799.1	1165.1	-1.5	1.5441593
D12498	BAA02236	BAA02236	91	FGF receptor-1		4477.1	3083.6	-1.5	1.45190686
D12769	BAA02236	BAA02236	91	BTE binding protein		1318.4	2120.6	-1.5	0.62171084
D12769	BAA04471	BAA04471	90	BTE binding protein		951.1	972	-1.5	0.97849794
D17521	XP_016879	XP_016879	96	Protein kinase C-regulated chloride channel		5493.9	3580.2	-1.5	1.53452321
D21869	XP_003450	XP_003450	85	PKF-M (phosphofructokinase-M)		4316.8	2941.4	-1.5	1.46760046
D38560	BAA07938	BAA07938	87	CyclinG-associated kinase		1064.2	704.1	-1.5	1.51143304
D44495	BAA08790	BAA08790	59	APEX nuclease		2921.7	1942.2	-1.5	1.50432499
D50093	BAA18993	BAA18993	93	Prion protein		32300.5	18687	-1.5	1.7285011
D86041	O09175	O09175	39	N-G,N-G-dimethylarginine dimethylaminohydrolase		4971.5	3409.6	-1.5	1.45808893
D87515	BAA19007	BAA19007	85	Aminopeptidase B		618.1	20	-1.5	30.905
D89069	BAA14397	BAA14397	75	Inducible carbonyl reductase		2396.6	1565.7	-1.5	1.53068915
D90401	NP_112416	NP_112416	84	Dihydrolipoamide succinyltransferase	E01415	3302.9	2255.3	-1.5	1.46450583
NM_031154	NP_000839	NP_000839	89n	Rattus norvegicus glutathione S-transferase, mu type 3	H33001	4329.1	2880.8	-1.5	1.50274229
AK015150	XP_030759	XP_030759	89n	Mouse RIKEN; Human hypothetical protein		3967.4	2604.5	-1.5	1.52328662

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H33086							Mus musculus, Similar to protein kinase, cAMP dependent regulatory, type I beta, clone MGC:18526 IMAGE:3674751		31376.4	21311.8	-1.5	1.47225481
H33093					No Human		EST(not recognised)		2003.4	1358.3	-1.5	1.4749319
NM_007798	NP_031824											
J03481	AAA41099	XP_003584			89	XM_003584	Mus musculus cathepsin B		2944.6	1488.8	-1.5	1.9778345
J04063	P11730	XP_044348				XM_044348	Dihydropteridine reductase		8265.3	5667.4	-1.5	1.45839362
J04503	AAA41917	NP_066283			91		Rat calmodulin-dependent protein kinase II gamma subunit mRNA, complete cds		3558.4	2446.7	-1.5	1.45436711
K00750	AAA21711	NP_061820			98	NM_021003 NM_018947	Protein phosphatase 2c		1337.9	760.7	-1.5	1.75877481
NM_031043	NP_112305	AAB09752			91		chrome c nuclear-encoded mitochondrial gene and flanks	A1008815	6564.3	4376.3	-1.5	1.49996572
L03294	Q06000	LIHUL			90n	U31525	Glycogenin	L01793	7189.3	4688.2	-1.5	1.53348833
L07925	Q03386	Q12967			92	M15856 U14417	Lipoprotein lipase		1877	1287.6	-1.5	1.45775085
L11025					89		Rat guanine nucleotide dissociation stimulator		17631.9	11921.9	-1.5	1.4789505
L23148	AAA20403	BAA02989			No Human		Rat T-cell receptor alpha chain mRNA for RT1L haplotype		736.4	767	-1.5	0.9601043
L24051	AAA41759	AAF19643			88	D13890	Rattus norvegicus inhibitor of DNA-binding, splice variant Id1.25		1818.2	1190.5	-1.5	1.52725745
L26268	AAA85779	NP_001722			91	AF208502	Transcription factor		1083.3	733.5	-1.5	1.47689162
M15474	AAA21801	NP_000357			99	NM_001731	Anti-proliferative factor (BTG1)		2944.8	1977.4	-1.5	1.48922828
M15481	AAA41387	XP_052652			81	NM_000366	Alpha-tropomyosin gene, exon 11		7266.7	5337.1	-1.5	1.36154466
M18331	AAA41872	NP_005391			92	XM_052652	Insulin-like growth factor I (IGF-I)		4353.6	2830.7	-1.5	1.53799414
M19357	AAA40988	NP_008822			98	NM_005400 NM_006891	Protein Kinase C epsilon		1817.3	2548.3	-1.5	0.71314209
M24104	AAA42322	NP_055046			76	NM_014231	Rat gamma-F-crystallin (gamma 4-1)		1039.3	686.1	-1.5	1.51479376
M27207		NP_000079			88	NM_000088	Vesicle associated membrane protein (VAMP-1)		8839.3	5852.8	-1.5	1.51026859
M27467	AAA79270	Homology too low for human			91n		Rattus norvegicus (clone pL6-3-1) alpha-1 type I collagen mRNA, 3' UTR		60274.4	41361.3	-1.5	1.45726561
M28648	AAA41672	XP_009351				XM_009351	Heart cytochrome oxidase subunit VIc (COX-VIc)		3759.4	2455.1	-1.5	1.53126146
M34134	AAA42253	CAA27243			63	X03541	Na,K-ATPase alpha-2 subunit mRNA, 5' end		3296.5	2260.1	-1.5	1.45856378
M34331					65		Alpha-tropomyosin (TMBF-2)		27548.1	12814.8	-1.5	2.14970971
M58758	AAA41962	NP_005168			91	NM_005177	Sequence intentionally withdrawn.		11124	7227.4	-1.5	1.53914271
							Rat proton pump polypeptide		2973.9	2032.8	-1.5	1.4629575

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M60322	AAA40721	NP_001619	NM_001628	85	Aldehyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)	15401.7	7231.2	-1.5	2.12989545
M60322	AAA40721	NP_001619	NM_001628		Aldehyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)				
M62388	AAA21087	CAA37339	X53251	85	Ubiquitin conjugating enzyme	6728.4	4516	-1.5	1.48990257
M65148	AAA42013	XP_027216	XM_027216	100	Rat RARF2	2467.7	1665.2	-1.5	1.48192409
M74439				73	UDP glucuronosyltransferase gene, complete cds	862.1	566.2	-1.5	1.52260685
M76426	AAC42062	I68600	M96860	93	Dipeptidylpeptidase 6	4653.6	4236.1	-1.5	1.09855764
M95591	Q02769	P37268	S76822	86	Farnesyl diphosphate farnesyl transferase 1	2799.8	1813.4	-1.5	1.54395059
S59892	AAB20211	XP_033168	XM_033168	92	La=autoantigen SS-B/La	5203.8	3580.2	-1.5	1.45349422
S61973	AAB20211	AAB94292	U44954	68	NMDA receptor glutamate-binding subunit	2121.1	1379.5	-1.5	1.53758608
S77900	AAB34127	XP_009501	XM_009501	96	myosin regulatory light chain isoform C; myosin RLC isoform C	20271	14869.5	-1.5	1.36326037
S81497	AAB36043	AAB60328	U08464	72	Lysosomal acid lipase=intracellular hydrolase	3727.2	2446.2	-1.5	1.52366936
S82649	AAB46783	AAH09924	BC009924	88	Narp=neuronal activity-regulated pentraxin	932.6	769	-1.5	1.21274382
S82911	AAB46839	NP_073207	NM_022716	95	rHox=rHox protein	2014.5	3038.7	-1.5	0.66294797
S87522	AAB21778	NP_000886	NM_000895	87	Leukotriene A4 hydrolase	1323.8	871.9	-1.5	1.51829338
S87522	AAB21778	NP_000886	NM_000895	87	Leukotriene A4 hydrolase	10206.2	6812.6	-1.5	1.49813581
U03390	AAA18951	NP_006089	NM_006098	99	Protein kinase C receptor	2800.4	5808.8	-1.5	0.48209613
U13176	AAA85101	NP_003330	NM_003339	100	ubc2e ubiquitin conjugating enzyme (E217kB)	9701.4	7676.3	-1.5	1.26381199
U17697	Q64654	AAB39951	U23942	93	Cytochrom P450 Lanosterol 14 alpha-demethylase	1224.7	967.1	-1.5	1.26636335
U20796	AAA62508	BAA20088	D16815	86	Nuclear receptor Rev-ErbA-beta	12716.8	8764.8	-1.5	1.45089449
U27201	AAA75002	NP_000353	NM_000362	95	Tissue inhibitor of metalloproteinase 3 (TIMP-3)	944.4	620.1	-1.5	1.52298016
U31352	AAA91023	NP_002331	NM_002340	82	Oxidosqualene cyclase	2348.3	1844.8	-1.5	1.27292931
U32681	A57190	I38006	Z22971	40	Crp-ductin	2777.9	2159.5	-1.5	1.28636258
U34843	g1236114	g3551742	U27112	93	Rattus norvegicus cell cycle progression related D123 mRNA, complete cds (13 on d.s.)	7173.7	2763.7	-1.5	2.59568694
						2146	1667	-1.5	1.28734253

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

U34843	g1236114	g3551742	U27112	93	Rattus norvegicus cell cycle progression related D123 mRNA, complete cds (13 on d.s.)	1970.3	1352.1	-1.5	1.4572147
U38180	AAC61788	XP_036183	XM_036183		Reduced folate carrier membrane glycoprotein	1160.9	2524.8	-1.5	0.4597988
U39572	AAD10400	P42356	L36151	98	Phosphatidylinositol 4-kinase	3552	2445.8	-1.5	1.45228555
U45479	AAB60525	NP_003886	NM_003895	87	Synaptotagmin	5939.4	4032.7	-1.5	1.47280978
U52102	AAB03280	NP_001304	NM_001313	89	rCRMP-1 mRNA	7624.6	5204.7	-1.5	1.46494515
U56242	AAB50063	AAC27038	AF055377	98	Transcription factor Maf2 mRNA	2299.6	1539.1	-1.5	1.49411994
U60977	AAC98706	NP_005794	NM_005803	83	Flotillin 1	14787.6	9884.9	-1.5	1.49597872
U67207	S74225	2211404A	U52912	87	Leptin receptor (fatty)	2319	1596.4	-1.5	1.45264345
U67995	AAB39620			No					
U70476	AAC52898	NP_003036	NM_003045	Human	Stearyl-CoA desaturase 2 mRNA	35115.6	22285.8	-1.5	1.57569394
U75411	AAB51477	CAA40956	X57819	81	Cationic amino acid transporter-1	1237.8	843.7	-1.5	1.46710916
NM_012656	NP_036788	NP_003109	NM_003118	53	Anti-idiotype immunoglobulin M light chain	1434	715.7	-1.5	2.00363281
U81492	AAC17704	NP_000579	NM_000588	83	SPARC	66640.7	45817.4	-1.5	1.45448454
U87306	AAB57679	AAC67491	AF055634	29	Interleukin-3 beta	3164.6	500.2	-1.5	6.32666933
U90610	AAB50408	CAA12166	AJ224869	62	Transmembrane receptor Unc5H2	7394.5	4906.5	-1.5	1.50708244
U95727	AAB64094	NP_005871	NM_005880	90	CXC chemokine receptor (CXCR4) mRNA	3294.6	2145.3	-1.5	1.53572927
U97142	Q62997	P56159	U59486	86	DnaJ homolog 2 mRNA	1323.9	1051.2	-1.5	1.25941781
V01216	P02764	P02763	X02544	92	Glial cell line-derived neurotrophic factor receptor alpha (42 on d.s.)	2370.7	1598.8	-1.5	1.4827996
X04139	CAA27756	NP_002729	NM_002738	51	Rat messenger encoding alpha-1-acid glycoprotein	782.4	524.8	-1.5	1.49085366
X05341	CAA28952	XP_030051	XM_030051	100	Protein kinase C	2570	1727.3	-1.5	1.48787124
X06889	3RABA	P20336	M28210	87	3-oxoacyl-CoA thiolase	5255.4	3523.3	-1.5	1.49161298
X07551	CAA30488	XP_047792	XM_047792	98	Ras-related small GTP binding protein 3A	12454	8347.9	-1.5	1.49187221
X07648					Sequence intentionally withdrawn.	7345.9	4994.9	-1.5	1.47068009
X08056	CAA30845	NP_000147	NM_000156	81	Amyloidogenic glycoprotein (rAG), cognate of human A4 amyloid precursor protein	21040.8	14125.1	-1.5	1.48960361
X12367	CAA30928	CAB37833	Y00483	85	Guanidinoacetate methyltransferase	4795.9	2620.9	-1.5	1.8298676
X12535	CAA31053	XP_031588	XM_031588	86	Glutathione peroxidase I	11490.9	7541	-1.5	1.52378995
X13722	CAA32001	AAF24515	AF217403	99	Ras-related protein p23	4338	2987.6	-1.5	1.45200161
X14848				73	LDL-receptor precursor	2079.8	1380.5	-1.5	1.50655556
					Mitochondrial genome	1804.9	1241.8	-1.5	1.45345466

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

[illegible]

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AF250133	XP_036785	XM_036785	93n	Mus musculus splicing factor Sc35 (Pr264) mRNA, 3'UTR, alternatively spliced	AA799538	2336.8	1655.5	-1.4	1.4115373
AA799581	Q93075	D86972		ESTs, Moderately similar to PUTATIVE DEOXYRIBONUCLEASE KIAA0218 [H.sapiens]		1332	2691.3	-1.4	0.4949281
NM_019396	XP_035350	XM_035350	89	Mus musculus cysteine and histidine-rich protein	AA799721	1005.4	722.9	-1.4	1.39078711
X14181	NP_000971	NM_000980	93n		AA799899	46447.2	34176.4	-1.4	1.35904308
NM_025277	NP_079553		99	Rat mRNA for ribosomal protein L18a	AA799996				
AA800034			Human too low	Mus musculus guanine nucleotide binding protein (G protein), gamma 10		4491.4	2138.1	-1.4	2.10065011
U58134	XP_040847	XM_040847	95n	EST (not recognized)	AA800296	7527.4	5385.1	-1.4	1.39781991
AA800637				Mus musculus poly(A) polymerase VI mRNA		868.5	699.9	-1.4	1.24089156
AA800749	BAB27481		97n	Homo sapiens full length insert cDNA clone		1053	772.5	-1.4	1.3631068
AJ010709	CAA09309	NM_000353	90	EST(not recognised)	AA800750	5240.5	3799	-1.4	1.37944196
AA800794				Rattus norvegicus gene encoding tyrosine aminotransferase		3118.3	2225.4	-1.4	1.40123124
AA800803				Mus musculus 10 day old male pancreas cDNA, RIKEN		1009.8	1427.1	-1.4	0.70758882
AK005487	BAB24073			EST (not recognized)	AA800822	4274.5	5141.2	-1.4	0.83142068
AF357006	AAK97375	NM_005576	85n	Mouse RIKEN	AA800844	1912.1	1393.3	-1.4	1.37235341
U90556	AA850246	CAC14588		Mus musculus lysyl oxidase-like 1	AA818593	4127.8	3056.4	-1.4	1.35054312
AF090347	AAG24469	XP_005557	83	Rattus norvegicus phosphatidate phosphohydrolase type 2		6929.8	4928.1	-1.4	1.40618088
M27905	AAA41504	AAA85655	95	Rattus norvegicus putative G-protein coupled receptor GPCR91	AA848831	3864.5	2731.2	-1.4	1.41494581
U75411	AAB51477	CAA40956	98	Rattus norvegicus ribosomal protein L21 mRNA	AA849648	1359.9	1005.8	-1.4	1.35205806
AF148511	NP_006858	NM_006867	53	Rattus norvegicus anti-idiotype immunoglobulin M light chain	AA850138	4913.1	3600.1	-1.4	1.36471209
AA859672	XP_040014	XM_040014	84(mus)	Mus musculus hermes mRNA	AA859519	1349.6	762.8	-1.4	1.76927111
AA859705	XP_046017	XM_046017	86n	Homo sapiens hypothetical protein MGC3103		3302.4	2348.7	-1.4	1.40605441
AA859750			92	Homo sapiens hypothetical protein DKFZp761G2113		3711.2	2724.1	-1.4	1.36235821
AA859832				EST (not recognized)		1392.4	707.6	-1.4	1.96777841
				Mus musculus 18 days embryo cDNA, RIKEN		1330.8	617.1	-1.4	2.15653865

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AA859878	BAB23031					EST (not recognized)		7709.1	4852.6	-1.4	1.58865351
AK003842	NP_084537			No Human		Mouse RIKEN	AA866371	4865.5	4816.4	-1.4	1.01019434
NM_030261						Mouse Hypothetical Protein	AA874873	1172	861.8	-1.4	1.3599443
AA874926						Homo sapiens mRNA; cDNA DKFZp434M1616					
AA874927						EST(not recognised)		4178	2916.5	-1.4	1.432539
AA875017						EST (not recognized)		2852.1	2001.7	-1.4	1.42483889
AA875127	BAB26250	CAC10401	AJ297710	92n		CDC2L5 protein kinase (Rat EST; mouse hypothetical protein)		12515	5752	-1.4	2.17576495
AA875268		XP_027422	XM_027422			ESTs, Highly similar to NUKM_HUMAN NADH-UBIQUINONE OXIDOREDUCTASE 20 KDA SUBUNIT PRECURSOR [H.sapiens]		1550.6	1139.9	-1.4	1.36029476
AA875425				96		Human DNA sequence from clone RP5-1169J3		7181.2	5127.6	-1.4	1.40049926
AA875496						Mus musculus 10 days neonate cerebellum cDNA, RIKEN		3080.8	2262.2	-1.4	1.36186014
NM_019128	NP_062001	NP_116116	NM_032727	71		Internexin, alpha	AA875659	504.3	373.1	-1.4	1.35164835
NM_012656	NP_036788	NP_003109	NM_003118	83		Secreted acidic cystein-rich glycoprotein	AA891204	1624.3	1161.7	-1.4	1.39820952
AA891207						EST (not recognized)		9944.7	7433	-1.4	1.33791201
AK018016	BAB31038	XP_035638	XM_035638	88n		Mouse RIKEN; Human hypothetical protein	AA891209	7588.1	5457.3	-1.4	1.39044949
AA891727		XP_042640	XM_042640	92n		EST (hypothetical protein)		2133.9	1473.9	-1.4	1.44779157
NM_019768	NP_062742	XP_034440	XM_034440	91n		Mus musculus MORF-related gene X	AA891789	2096.8	1511.3	-1.4	1.38741481
AA891796						Mus musculus ES cells cDNA, RIKEN		8200.5	5974.1	-1.4	1.37267538
NM_021540	NP_067515	XP_003972	XM_003972	89n		Mus musculus g1-related zinc finger protein	AA891810	8750	6110.2	-1.4	1.43203168
NM_021540	NP_067515	XP_003972	XM_003972	89n		Mus musculus g1-related zinc finger protein	AA891810	2537.4	1857.7	-1.4	1.36588254
AA891812	S54147	S18207	X58141	94		ESTs, Highly similar to S54147 alpha adducin - rat [R.norvegicus]		1410.2	749.2	-1.4	1.88227443
NM_022545	NP_071990	XP_008138	XM_008138	92		Phosphoribosylpyrophosphate synthetase-associated protein	AA891871	4609.2	3358.4	-1.4	1.37243926
NM_010413	NP_034543	XP_028575	XM_028575	86n		Mus musculus histone deacetylase 6	AA892036	3143.7	2205.2	-1.4	1.42558498
AA892049						EST (not recognized)		2188.5	1514.9	-1.4	1.44464981
								2761.4	2005.2	-1.4	1.37711949

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AA892083 AK013062					EST(not recognised) Mouse RIKEN with low homology to MAD4 homolog (Homo sapiens)	AA892154	2783.6	1960	-1.4	1.42020408
AA892425					Mus musculus 11 days embryo cDNA, RIKEN		2509.9	1085.2	-1.4	2.31284556
AA892486	A36690	A32609		Y00839	ESTs, Weakly similar to A36690 sucrose alpha-glucosidase [R.norvegicus]		1152.7	827.6	-1.4	1.39282262
AA892496		XP_041304		XM_041304			10219.9	7225.4	-1.4	1.41444072
AA892522					Weak homology with Homo sapiens chimerin (chimaerin) 2 (CHN2)		1867.8	1313.8	-1.4	1.42167758
AA892554		XP_032936		XM_032936	EST (not recognized)	AA892554	1197.9	847	-1.4	1.41428571
Z34922	CAA84402	NP_001354		NM_001363	Homo sapiens similar to RAS- GTPASE-ACTIVATING PROTEIN BINDING PROTEIN 2		2094.5	1547.2	-1.4	1.35373578
NM_025363	NP_079639	AAH08467		BC008467	R.norvegicus mRNA for nucleolar protein NAP57	AA892562	2793.6	2026.2	-1.4	1.37873853
AA892635	TVRTRH	TVHUC4		M31470	Mouse RIKEN; Human hypothetical protein	AA892572	3071.6	2183.9	-1.4	1.40647466
X74125	CAA52225	NP_004126		NM_004135	Ras-like protein		4837.3	2479	-1.4	1.95131101
NM_011962	NP_036092	NP_001075		NM_001084	R.norvegicus mRNA for NAD+- isocitrate dehydrogenase, gamma subunit	AA892808	2539.7	1876	-1.4	1.35378465
AA892888					Mus musculus procollagen-lysine, 2- oxoglutarate 5-dioxygenase 3	AA892859	5038.5	3588.3	-1.4	1.40414681
NM_009386	NP_033412	XP_007585		XM_007585	EST (not recognized)		4324	5673.3	-1.4	0.76216664
NM_008942	NP_032968	XP_032201		XM_032201	Mus musculus tight junction protein 1	AA892918	3118.7	1881.6	-1.4	1.65747236
AA893183		XP_017866		XM_017866	Mus musculus puromycin-sensitive aminopeptidase	AA893065	7118.1	4996.3	-1.4	1.42467426
NM_007457	NP_031483	XP_051246		XM_051246	Homo sapiens hypothetical protein FLJ12529		2354.5	1646.6	-1.4	1.42991619
AA893230					Mus musculus adaptor protein complex AP-1, sigma 1	AA893202	5046.5	3498.8	-1.4	1.44235166
AA893353					Mus musculus adult male tongue cDNA, RIKEN		959.3	702.7	-1.4	1.36516294
NM_013160	NP_037292	XP_045326		XM_045326	ESTs, Weakly similar to T15946 hypothetical protein F01F1.9 [C.elegans]		6094.5	5152.4	-1.4	1.18284683
					Rattus norvegicus Max interacting protein 1	AA893611	5276.1	4054	-1.4	1.30145535

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BC004091		Homology too low for Humans									
NM_019435	NP_062308	AAH10665	BC010665	86n	Mouse Clone	AA893643	7618.1	5616.7	-1.4	1.35633023	
AF229439	AAF91258	XP_037147	XM_037147	85n	Mus musculus neuronal protein 15.6	AA893690	2481.3	2045.5	-1.4	1.21305304	
AK010212					Mus musculus zinc finger protein 289	AA893741	4313.4	2980.1	-1.4	1.44740109	
AA893869					Mouse RIKEN	AA893743	2821.7	2044.2	-1.4	1.38034439	
					ESTs, Weakly similar to T16084 hypothetical protein F16H11.1 [C.elegans]						
D32249	BAA06979	XP_003693	XM_003693	78	Rattus norvegicus mRNA for neurodegeneration associated protein 1	AA894089	1938.9	1886.5	-1.4	1.02777631	
AF305619	AAL09361	NP_006550	NM_006559	63	Nuclear RNA binding protein Sam68	AA894160	5591.4	3972.5	-1.4	1.40752675	
AA899253	P36198	P50458	U11701	92	Myristoylated alanine-rich protein kinase C substrate		1720.2	1244.9	-1.4	1.38179773	
AA899320		XP_029314	XM_029314	82n	Homo sapiens NADH dehydrogenase		6265.5	4636	-1.4	1.35148835	
NM_012974	NP_037106	CAA56130	X79683	81	Rattus norvegicus Laminin chain beta 2	AA900848	7508.7	7661.8	-1.4	0.98001775	
L78075	AAB40051	XP_017159	XM_017159	95n	Mus musculus Cdc42 gene	AA925473	3101.4	2250.1	-1.4	1.37833874	
X53565	CAA37637	AAC39542	AF027516	44	Rat mRNA for trans-Golgi network integral membrane protein TGN38	AA926292	19747.9	13675.3	-1.4	1.44405607	
AK013911	BAB29050	NP_055148	NM_014333	90n	Homo sapiens immunoglobulin superfamily, member 4; Mouse RIKEN	AA933181	3227.2	2359.7	-1.4	1.36763148	
NM_024152	NP_077066	NP_001654	NM_001663	100	Rattus norvegicus ADP-ribosylation factor 6	AA944324	921.7	677.8	-1.4	1.35984066	
X75207	CAA53020	AAH00076	BC000076	83	CCND1 mRNA for cyclin D1	AA957218	1562	1104	-1.4	1.41485507	
D00636	BAA00530	NP_000389	NM_000398	83	NADH-cytochrome b5 reductase	AA963839	1829.7	2896	-1.4	0.63180249	
AB000280	G2208839	Q16348	S78203	23	Peptide/histidine transporter		6815.5	5037.4	-1.4	1.35297971	
AB004096	BAA20354	Q16850	U23942	89	Lanosterol 14-demethylase	AA963449	1812.2	1316	-1.4	1.37705167	
AB006914	BAA22191	NP_004231	NM_004240	78	Rattus norvegicus mRNA for salt-tolerant protein		4884	3450.4	-1.4	1.41548806	
AB010466	BAA28954	NP_001162	NM_001171	73	Rattus norvegicus mRNA for multidrug resistance-associated protein (MRP)-like protein-1		1555.4	1987.1	-1.4	0.78274873	
AB011679	BAA32736	AAC28642	AF070561	95	Class I beta-tubulin		1406.8	1035.5	-1.4	1.35857074	
							1505.2	1104.8	-1.4	1.36241854	

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AB015432	BAA33035	NP_003477	NM_003486	83	LAT1 (L-type amino acid transporter 1)	10494.3	4637.2	-1.4	2.26306823
AB015946	A25113	UBHUG	M61764	98	Rattus norvegicus mRNA for tubulin, complete cds	3704.8	2084.6	-1.4	1.77722345
AB016160	Q9Z0U4	Q9UBS5	AJ225028	97	Gamma-aminobutyric acid (GABA) B receptor, 1	4928.3	3630.5	-1.4	1.35747142
AB016160	Q9Z0U4	Q9UBS5	AJ225028	97	Gamma-aminobutyric acid (GABA) B receptor, 1	4751.1	3460.6	-1.4	1.37291221
AB016800	BAA34306	XP_006067	XM_006067	82	7-dehydrocholesterol reductase	5720	2797.7	-1.4	2.04453658
AB017170	BAA35187	BAA35184	AB017167	96	Rattus norvegicus mRNA for Slit-1 protein, partial cds	3105.6	2222.8	-1.4	1.39715674
AF008439	AAC53319	NP_000608	NM_000617	78	natural resistance-associated macrophage protein 2	1808.1	1322.6	-1.4	1.36707999
AF008554	AAB63294	AAB18374	U42349	71	Rattus norvegicus implantation-associated protein (IAG2) mRNA, partial cds	617.4	579.4	-1.4	1.06558509
AF001282	AAB65640	NP_000185	NM_000194	95	Hypoxanthine guanine phosphoribosyl transferase	2595.9	1814.3	-1.4	1.43079976
AF012714	AAC53453	XP_005866	XM_005866	84	Hepatic multiple inositol polyphosphate phosphatase	2222.5	1301.6	-1.4	1.70751383
AF013144	AAB94858	NP_004410	NM_004419	87	Rattus norvegicus MAP-kinase phosphatase (cpg21) mRNA, complete cds	606.4	842.6	-1.4	0.71967719
AF016178	AAC53325	Homology too low for Humans			Putative pheromone receptor (Go-VN1)	1422	584.3	-1.4	2.43368133
AF020211	AAB71236	NP_005681	NM_005690	83	DLP1 splice variant 1	2024.4	1416.7	-1.4	1.42895461
AF021923	AAC19405	XP_048312	XM_048312	84	Potassium-dependent sodium-calcium exchanger	2659.8	1938.7	-1.4	1.37195028
M18416	AAA61927	XP_033545	XM_033545	89n	Rattus norvegicus nerve growth factor induced factor A	4680.3	3371	-1.4	1.38840107
AF027954	AAB87418	NP_055019	NM_014204	98	Bcl-2-related ovarian killer protein (Bok)	3453.7	2462.8	-1.4	1.40234692
AF030558	AAC40202	NP_003550	NM_003559	56	Phosphatidylinositol 5-phosphate 4-kinase gamma	1882.5	1360.5	-1.4	1.38368247
AF034237	AAD01990	BAA74928	AB020712	79	EST also named DD6A4-1 mRNA	5598.5	3562.5	-1.4	1.57150877
AF034582	AAC68839	NP_054778	NM_014059	74	Vesicle associated protein (VAP1)	2517.4	1774.8	-1.4	1.41841334
AF036548	AAD02476	NP_003365	NM_003374	93	RGC-32	1994.8	1452.7	-1.4	1.37316721
AF048828				88	Rattus norvegicus voltage dependent anion channel (RVDAC1)	1267.4	896.8	-1.4	1.4132471
AF051425	AAC05574	NP_008946	NM_007015		Chondromodulin-1 (Chm-1)	8151.4	7394.2	-1.4	1.10240459

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AF058795	AAC63994	AAD45867	AF099033	95	GABA-B receptor gb2	6797.1	4842.4	-1.4	1.40366347
AF064868	AAC63267	NP_065887	NM_020836	79	Brain-enriched guanylate kinase-associated protein 1	1840	1285.6	-1.4	1.43123833
AF067795	AAC79427	NP_001319	NM_001328	90	BFA-dependent ADP-ribosylation substrate	7144.1	5201.1	-1.4	1.373557482
AF074609	AAC33332		No Human						
AF076183	AAC31815	XP_006499	XM_006499	90	MHC class I antigen (RT1.EC3) gene	11693.7	8256.4	-1.4	1.41631946
AF079162	AAC99398	NP_000255	NM_000264	92	Cytosolic sorting protein PACS-1a	3227.3	2359.4	-1.4	1.36784776
AF083269	O88656	O15143	AF006084	96	Rattus norvegicus patched (ptc) mRNA, partial cds	3093.1	2211	-1.4	1.39895975
AF087431	AAC36477	XP_035229	XM_035229	78	Actin-related protein complex 1b (14 on d.s.)	3358.4	2462.8	-1.4	1.36365113
AF087437	AAC78485	NP_074036	NM_022845	89n	Glycoprotein processing glucosidase I	2555.8	1771.6	-1.4	1.44265071
AF087687	AAC35371	XP_008354	XM_008354	97	PEBP2 beta mRNA, 3' UTR	21526.8	15828.6	-1.4	1.35999394
AF087943	AAC63367	NP_000582	NM_000591	64	dlg 3	4211	2118.5	-1.4	1.98772717
AF093139	AAC97497	XP_043248	XM_043248	84	CD14 mRNA	1434.1	1037.7	-1.4	1.38199865
AF095927	AAC72384	NP_110395	NM_030768	87	Rattus norvegicus tip associating protein (TAP) mRNA	3212.3	2278.8	-1.4	1.40964543
AF097723	CAA49904	NP_057218	NM_016134	83	Protein phosphatase 2C mRNA	1327.7	970.4	-1.4	1.36819868
AI007824	CAA49904	AAB18264	U74324	91	Rattus norvegicus hematopoietic lineage switch 2 related protein	3324.1	1932.3	-1.4	1.72028153
AI007824	CAA49904	AAB18264	U74324	91	R. norvegicus mRNA for Mss4 protein	164159.2	113399.6	-1.4	1.4476171
S45392	AAB23369	NP_031381	NM_007355	85	R. norvegicus mRNA for Mss4 protein	55098	40702.7	-1.4	1.35366941
AI009147	NP_112313	CAB96537	AJ249980	86	Heat shock protein 90	15494.1	11103.4	-1.4	1.39543743
NM_031051	g310100	NP_002406	NM_002415	95	EST (human hypothetical protein)	3461.3	1687.6	-1.4	2.0510192
AI012275	NP_037356	g3294180	Z99129	40	Rattus norvegicus macrophage migration inhibitory factor (Mif)	5403.7	4569.3	-1.4	1.18261003
NM_013224	NP_071633	XP_015318	XM_015318	100	Developmentally regulated protein mRNA	958.1	936.9	-1.4	1.02262782
U30789	NP_036269	NP_036269	NM_012137	93	Rattus norvegicus ribosomal protein S26	20479.9	14848.3	-1.4	1.37927574
NM_022297	P12368	P13861	X14968	87	Rattus norvegicus clone N27	10327.2	7535.5	-1.4	1.37047309
AI059291					Rattus norvegicus NG,NG dimethylarginine	1091.1	1790.1	-1.4	0.60951902
					dimethylaminohydrolase	3039.9	2171	-1.4	1.40023031
					Protein kinase, cAMP dependent regulatory, type II alpha				

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NM_012959	NP_037091	NP_005255	NM_005264	92	Rattus norvegicus Glial cell line-derived neurotrophic factor receptor alpha	AI070721	2638.2	1898.7	-1.4	1.38947701
NM_012903	NP_037035	NP_006296	NM_006305	81	Rattus norvegicus Acid nuclear phosphoprotein 32 (leucine rich)	AI070967	3330.1	2424.6	-1.4	1.37346366
AK017379	AAA42051	NP_005994	NM_006003	85	Mouse RIKEN	AI103874	2273	1585.7	-1.4	1.43343634
M24542	AAC53453	XP_005866	XM_005866	84	Rat Rieske iron-sulfur protein	AI103911	6932.2	4832.2	-1.4	1.43458466
AF012714					Hepatic multiple inositol polyphosphate phosphatase	AI111401	1161.2	846	-1.4	1.37257683
NM_012637	NP_036769	NP_002818	NM_002827	81	Rattus norvegicus Protein-tyrosine phosphatase	AI113289	1076.8	772.1	-1.4	1.394638
NM_031020	NP_112282	XP_043351	XM_043351	94	p38 mitogen activated protein kinase (Mapk14)	AI137862	6631.6	3548	-1.4	1.86910936
NM_031719	NP_113907	NP_001284	NM_001293	78	Rattus norvegicus chloride channel current inducer	AI169005	1468.3	1041	-1.4	1.4104707
NM_031616	NP_113804	AAD09746	AF065391	54	Rattus norvegicus zinc finger protein 265	AI170608	2874.1	2059.5	-1.4	1.3955329
M60523	AAA37818	NP_002158	NM_002167	83	Mouse helix-loop-helix protein (Id related)	AI171268	5236.5	3724.1	-1.4	1.40611154
J01436	AAA99907			No		AI171355	73530.7	53883	-1.4	1.36463634
M26594	AAA41563	AAB01380	L34035	88	Cytochrome B gene	AI171506	2557.8	1886.4	-1.4	1.35591603
AI175935					Rattus norvegicus malic enzyme		1844.9	1316	-1.4	1.4018997
BC004671	AAH04671	NP_000792	NM_000801	97(mus)	Mus musculus adult male cecum cDNA, RIKEN	AI176170	18902.6	13099.4	-1.4	1.44301266
BC012522	AAH12522	AAH11890	BC011890	94n	Mus musculus, FK506 binding protein 1a	AI176422	1830.7	454.9	-1.4	4.02440097
AI176460					Mouse RIKEN; Homo sapiens, Similar to electron-transferring-flavoprotein dehydrogenase		4877.5	4755.5	-1.4	0.98359794
AF013598	AAB69328	NP_004760	NM_004769	80	Rattus norvegicus genes for 18S, 5.8S, and 28S ribosomal RNAs	AI179632	7049.9	5096.9	-1.4	1.38317409
AI230130	g2648049	AAD40239	AF144748	82	Rattus norvegicus proton gated cation channel DRASIC mRNA		3754.1	2627.2	-1.4	1.42893575
NM_013060	NP_037192	XP_002273	XM_002273	97	Testicular ecto-ATPase	AI230256	2840.2	1973.4	-1.4	1.43924192
AK012933		XP_039754	XM_039754	95n	Rattus norvegicus Inhibitor of DNA binding 2, dominant negative helix-loop-helix protein (Id2)	AI230406	10452.5	8898.5	-1.4	1.17463617
U20525	AAA62507	NP_003286	NM_003295	95	Mouse RIKEN; Homo sapiens RAB10	AI230748	77943.8	47163.8	-1.4	1.65261917
					Rattus norvegicus lens epithelial protein					

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NM_017322	NP_059018	AAA56831	L31951	92	Rattus norvegicus stress activated protein kinase alpha II	AI231354	521.6	20	-1.4	26.08
NM_016988	NP_058684	AAH03160	BC003160	86	Rattus norvegicus Acid phosphatase 2, lysozymal	AI234950	1698.4	1197.2	-1.4	1.4186435
AI235707					Double cDNA (calnexin and p62 dynactin)		3286.9	2654.9	-1.4	1.2380504
NM_017182	NP_058878	XP_003835	XM_003835	89	Rattus norvegicus H2A histone family, member Y	AI237016	3068.5	3494.4	-1.4	0.87811928
AK003762		XP_051511	XM_051511	93n	Mouse RIKEN; Human hypothetical protein	AI237378	10656.6	7811.1	-1.4	1.36428928
AI639101		NP_05214	NM_005223	71	EST (not recognized)		1130.6	93.2	-1.4	12.1309013
AI639157	AAB71495				Deoxyribonuclease I (DNaseI) ??		4397.4	3039.4	-1.4	1.44679871
AI639176					EST (not recognized)		796.2	582.6	-1.4	1.36663234
AI639204					EST (not recognized)		905.6	364.7	-1.4	2.48313682
AI639207					EST (not recognized)		5992.1	4371.9	-1.4	1.37059402
AI639236					EST (not recognized)		1164.3	836.8	-1.4	1.39137189
AI639239					EST (not recognized)		702.9	504.5	-1.4	1.39326065
AI639345					EST (not recognized)		1498.5	705.8	-1.4	2.1231227
AI639461					EST (not recognized)		1714.1	1246.4	-1.4	1.37524069
AI639501		NP_113630	NM_031442	88n	Hypothetical protein		4894.8	2746.8	-1.4	1.78200087
AJ000485	CAA04123	XP_054486	XM_054486	78	DKFZp761J17121 [Homo sapiens]. CLIP-115		3387.9	4017.1	-1.4	0.84336959
AJ001290	CAA04650	XP_009743	XM_009743	93	Sodium myo-inositol transporter (SMIT)		2395.9	1438.5	-1.4	1.6655544
AJ007422	CAA07496	NP_006860	NM_006869	94	IP4/PIP3 binding protein		4364	3115	-1.4	1.40096308
D00569	BAA00446	NP_001350	NM_001359	81	2,4-dienoyl-CoA reductase precursor		910.5	1065.2	-1.4	0.85476906
D13124	BAA02426	NP_005167	NM_005176	75	P2 mRNA for ATP synthase subunit c		17227	12011.3	-1.4	1.43423276
D13127	Q06647	CAA58219	X83218		Rattus norvegicus mRNA for oligomycin sensitivity conferring protein, complete cds		14754.5	16106	-1.4	0.91608717
D13309	BAA02569	AAA35750	M24070	81	DNA-binding protein B		9538.2	6835.3	-1.4	1.39543253
D14421	BAA03313	NP_004567	NM_004576	59	b isotype of B regulatory subunit of protein phosphatase 2A		1704.5	1200.2	-1.4	1.42017997
D21800	BAA04824	NP_002786	NM_002795	100	Proteasome subunit RC10-II		9685.8	6980.8	-1.4	1.3874914
D26073	BAA05068	XP_008138	XM_008138	98	Phosphoribosylpyrophosphate synthetase-associated protein (39 kDa)	AA891871	3405.7	2434.2	-1.4	1.39910443
D28512	BAA05870	NP_115674	NM_032298	71	Synaptotagmin III		3468.3	2445.6	-1.4	1.41817959

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D29683	BAA06152	XP_033687	XM_033687	90	Endothelin-converting enzyme	AA956930	5383.1	3919.5	-1.4	1.37341498
D29960	BAA06227	NP_001876	NM_001885	46	AlphaB crystallin-related protein	A1103838	618.3	1192.1	-1.4	0.51866454
D70817	BAA11097	NP_006642	NM_006651	56	Synaphin 2		9368.6	8435.4	-1.4	1.11062902
D83349	BAA11895	XP_008821	XM_008821	54	Short type PB-cadherin		16455.2	11964.7	-1.4	1.37531238
D83538	BAA19614	NP_002641	NM_002650	98	230kDa phosphatidylinositol 4-kinase		4756.1	3324.2	-1.4	1.43075026
D83948	BAA12144	AAH04181	BC004181	81	S1-1 protein		2535	1248.2	-1.4	2.03092453
D85435	BAA36277	AAK97528	AF408198	71	Protein kinase C delta-binding protein		10175.6	7031.9	-1.4	1.44706267
D86297	BAA13063	NP_001686	NM_001695	95	Erythroid-specific delta-aminolevulinatase synthase		5939.4	4223.8	-1.4	1.40617453
D87336	BAA13333	NP_000377	NM_000386	93	Bleomycin hydrolase		4306.6	1615.2	-1.4	2.6662952
H31313				No	EST(not recognised)	H31323	6500.3	3704.8	-1.4	1.75456165
AC091616				Human	Rat clone		832.1	776.7	-1.4	1.07132741
NM_025927	NP_080203	NP_115727	NM_032351	82n	Mus musculus mitochondrial ribosomal protein L45	H31489	3349.2	2393	-1.4	1.39958211
H31648					EST (not recognized)		1693.8	1236.9	-1.4	1.36939122
H31722					EST (not recognized)		2997.1	2109	-1.4	1.42110005
H31802	S12207		No human		EST, Moderately similar to S12207 hypothetical protein [M.musculus]		1742.1	1222.4	-1.4	1.42514725
AK004235	BAB23231				Mouse RIKEN	H31847	7466.9	5342.4	-1.4	1.39766771
H31859					EST (not recognized)		675.1	489.7	-1.4	1.37859914
H33459					Mus musculus adult male small intestine cDNA, RIKEN		6478.6	4738.1	-1.4	1.36734134
AF333396	AAK29401	AAG25715	AF309387	93	Nucleolar protein C7C	H33461	3259.9	2388.9	-1.4	1.36460296
H33619					EST (not recognized)	H33619	742.7	520.9	-1.4	1.4258015
J01435					Mitochondrial cytochrome oxidase subunits I,II, III		272027.3	200600	-1.4	1.3560683
J03637	AAA40713	AAH04370	BC004370	81	Aldehyde dehydrogenase		2274.8	1031.2	-1.4	2.20597362
J04147	AAA41089	NP_000367	NM_000376	83	1,25-dihydroxyvitamin D-3 receptor		3798.5	4223.2	-1.4	0.89943645
J05022	DIRTR1	Q9Y2J8	AB030176	93	Peptidyl arginine deiminase, type II		6417.5	3528.1	-1.4	1.81896772
L00191	AAA41166	NP_002017	NM_002026	72	Rat fibronectin		3431.7	3370.8	-1.4	1.01806693
NM_031043	NP_112305	AAH09752	U31525	90n	Glycogenin	L01793	4181.2	2339.8	-1.4	1.78699034
L02530	AAA41172	NP_001457	NM_001466	94	Rattus norvegicus Drosophila polarity gene (frizzled) homologue		3292	1918.9	-1.4	1.71556621
L02615	AAA40867	NP_006814	NM_006823	97	cAMP-dependent protein kinase inhibitor (PKI)		1849.4	1309.2	-1.4	1.41261839
L04485	AAA41571	NP_002746	NM_002755	90	MAP kinase kinase mRNA		5954.3	4285.1	-1.4	1.38953583

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L04739	AAA50878	AAA36000	M95542	56	Plasma membrane calcium ATPase.	2636.7	1602.6	-1.4	1.64526395
L05435	AAA42188	NP_055664	NM_014849	84	Synaptic vesicle protein (SV2)	1180.9	453.4	-1.4	2.80454345
L07073	AAA57231	NP_036227	NM_012095	98	Clathrin-associated adaptor protein homolog (p47A) mRNA	1606.2	1117.2	-1.4	1.4377014
L14851	AAA02856	XP_045648	XM_045648	68	Neurexin III-alpha	1067.3	766.4	-1.4	1.39261482
L19180	S46217	2204414A	U35234	93	Protein tyrosine phosphatase, receptor type, D	5844.8	4314.2	-1.4	1.35478188
L20821	AAA03046	AAG40313	AF318489	89	Syntaxin 4	680.2	266.7	-1.4	2.5504312
L23148	AAA20403	BAA02989	D13890	88	Rattus norvegicus inhibitor of DNA-binding, splice variant Id1.25	1216	855.9	-1.4	1.42072672
L23219	AAA65640	NP_005136	NM_005145	94	G protein gamma subunit (gamma7 subunit)	3491.4	3538.4	-1.4	0.98671716
L24374	AAA99432	NP_002414	NM_002423	70	Matrilysin (MMP-7)	1801.4	1304.2	-1.4	1.38122987
L27075	AAA20999	NP_000184	NM_000193	82	ATP-citrate lyase	3709.9	2631.3	-1.4	1.40991145
L27340	AAA66191	I38922	U19601	86	Rat (vhh-1) mRNA	3200.9	2211.3	-1.4	1.44751956
L35271	I54531	I38874	I38874	75	AML1	2030.4	1442.3	-1.4	1.40775151
M10094	AAA40850	NP_000719	NM_000728	63	RT1 class Ib gene	2523.9	1869.4	-1.4	1.35011234
M11596	AAA41314	AAH12158	BC012158	89	Beta-type calcitonin gene-related peptide	2741.1	2005.4	-1.4	1.36685948
M12156					Rat helix-destabilizing protein	2251.1	1634.1	-1.4	1.37757787
M13100					Long interspersed repetitive DNA sequence LINE3	8641.9	6184.1	-1.4	1.39743859
M13100					Long interspersed repetitive DNA sequence LINE3	1791.6	1315.9	-1.4	1.36150163
M13100					Long interspersed repetitive DNA sequence LINE3	1568.5	1095.1	-1.4	1.43228929
M13101					Long interspersed repetitive DNA sequence LINE4	7669.1	5564.4	-1.4	1.37824384
M15562	AAA41609	AAA59783	M60334	64	MHC class II alpha chain RT1.D alpha (u)	5691.7	4324.5	-1.4	1.31615216
M15562	AAA41609	AAA59783	M60334	64	MHC class II alpha chain RT1.D alpha (u)	2837.6	2015.6	-1.4	1.40781901
M15880	P07808	P01303	K01911	93	Neuropeptide Y	2468.6	1777.8	-1.4	1.38857014
M15882	AAA40868	NP_009027	NM_007096	89	Clathryn light chain (LCA1).	18014.4	15928.6	-1.4	1.13094685
M15882	AAA40868	NP_009027	NM_007096	89	Clathryn light chain (LCA1).	10025.6	7295.4	-1.4	1.37423582
M16112	AAA41866	AAD42035	AF078803	95	Brain type II Ca2+/calmodulin-dependent protein kinase	11471.5	6065.8	-1.4	1.89117676
M17526	AAA40826	NP_066268	NM_020988	98	GTP-binding protein	26119.3	18325.1	-1.4	1.42532919
M18416	AAA61927	NP_001955	NM_001964	72	Nerve growth factor-induced protein	1039	471.6	-1.4	2.20313825

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M18530	g204785	g425520	S65921	70	Anti-acetylcholine receptor antibody gene, kappa-chain, VJC region	2234.6	1618	-1.4	1.38108776
M23601	AAA441566	NP_000889	NM_000898	83	Rat monoamine oxidase B (Maobf3)	3465.1	2131.2	-1.4	1.62589152
M24542	AAA42051	NP_005994	NM_006003	85	Rat Rieske iron-sulfur protein mRNA, complete cds	13029.7	7718.1	-1.4	1.68820046
M25350	AAA41846	AAA03589	L20966	96	cAMP phosphodiesterase (PDE4)	546.2	448.5	-1.4	1.21783724
M27925	AAA42100	NP_003169	NM_003178	81	synapsin 2a	2831.7	1696.5	-1.4	1.66914235
M31032	AAA40969	NP_009175	NM_007244	84n	Rat contiguous repeat polypeptides (CRP) mRNA, complete cds	1177.8	862.3	-1.4	1.36588194
M31174	AAA41121	XP_050014	XM_050014	93	Rat c-erbA-alpha-2-related protein	10557	7739.2	-1.4	1.36409448
M31178	AAA40851	NP_004920	NM_004929	98	Rat calbindin D28	1341.9	973.6	-1.4	1.37828677
M32783	AAA41117	NP_077722	NM_024411	59	Dynorphin	15229.7	10570.3	-1.4	1.44080111
M33648	AAA41336	NP_005509	NM_005518	88	Mitochondrial 3-hydroxy-3-methylglutaryl-CoA synthase	2680.7	1860.5	-1.4	1.44084923
M34043	AAA42062	NP_066932	NM_021109	100	Thymosin beta-4 mRNA	126156.3	89623.7	-1.4	1.40762209
M38135	AAA63484	XP_044593	XM_044593	80	Cathepsin H (RCHII)	3269.1	2367.3	-1.4	1.38094031
M57428	AAA42103	AAA36411	M60725	99	Rat S6 kinase mRNA	1719.5	678.6	-1.4	2.53389331
M57728	AAA41632	XP_054752	XM_054752	83	Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end	738.3	1293.2	-1.4	0.57090937
M58758	AAA41962	NP_005168	NM_005177	91	Rat proton pump polypeptide	5517.4	3892.3	-1.4	1.41751664
M59786	AAA85463	CAA84341	Z34810	85	Rat dihydropyridine-sensitive calcium channel alpha-1 subunit	3584.9	2621.7	-1.4	1.3673952
M61177	AAA63486	AAA36142	M84490	98	Rat extracellular-signal-regulated kinase 1 (ERK1)	38589.2	28547.8	-1.4	1.35173989
M62642	AAA41337	NP_000604	NM_000613	75	Rat (clone pRHx1) hemopexin mRNA	824	576.7	-1.4	1.42881914
M62992	AAA41789	XP_008986	XM_008986	57	Glycoprotein p62	1474.1	1284.3	-1.4	1.14778479
M63485	AAB63955	XP_038204	XM_038204	84	Matrin 3	3243.1	2371.3	-1.4	1.36764644
M64301	AAA41125	AAL17605	AF420474	96	Extracellular signal-related kinase (ERK3)	2741.4	1959.6	-1.4	1.39895897
M69246	AAA41270	NP_004344	NM_004353	85	Collagen-binding protein (gp46)	5770.5	3994.6	-1.4	1.44457518
M76110	AAA42305	NP_001602	NM_001611	83	Tartrate-resistant acid phosphatase type 5	3263.1	2251.2	-1.4	1.4494936
M80804	AAA73144	AAB26524		76	Unknown Protein	7923.4	5815.7	-1.4	1.36241553
M81639		AAC83231	AF070673	90	Stannin mRNA	4341.8	3151.2	-1.4	1.37782432
M81766	AAA42025	AAA60293	M84820	86	Nuclear receptor co-regulator 1 (RCor-1)	2163.2	1548.7	-1.4	1.3967844

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M89945	XP_053253	XM_053253	84	Farnesyl diphosphate synthase	27448.4	19259.5	-1.4	1.42518755
M91595	AAA91899	XP_002636	64	Insulin-like growth factor binding protein-2 gene, exon 1	3442.9	2382.1	-1.4	1.44532136
M95768	AAA40924	NP_004379	82	di-N-acetylchitinase	964.7	707.7	-1.4	1.36314823
S45812	1903159A	P21397						
			91	ESTs, Highly similar to 1903159A monoamine oxidase A [R.norvegicus]	3306.3	2345.7	-1.4	1.40951528
S50461	XP_004753	XM_004753	89	G alpha 12z,=signal-transducing G protein alpha 12 subunit	2362.2	1658.7	-1.4	1.42412733
S54008	Q04589	1EVC	97	FGF receptor-1	6398.6	4604.6	-1.4	1.38961039
S55223	AAA13843	NP_003395	98	14-3-3 protein beta subtype	33556.7	22635.6	-1.4	1.48247451
S65555	AAB28225	NP_002052	92	Gamma-glutamylcysteine synthetase light chain	1710.3	1254.2	-1.4	1.36365811
S75019	AAB31967	AAH02515	83	Antiquitin=26g turgor protein homolog	2609.6	1805.8	-1.4	1.44512128
S75991	NP_002967	NP_002976	86	Voltage-dependent sodium channel alpha subunit	9546.1	6751.4	-1.4	1.41394377
NM_017061	NP_058757	Homology too low for humans			S77494			
S79263	AAB35068	XP_009960	49	Lysyl oxidase	683.2	1425.4	-1.4	0.47930406
U00926	AAC28872	AAH02389	70	rIL-3R beta =interleukin-3 receptor beta-subunit	7642.6	5320.2	-1.4	1.43652494
U02096	AAA60455	NP_001437	88	Delta subunit of F1F0 ATPase	22572.8	12558.7	-1.4	1.79738349
U05989	AAA16492	NP_002574	69	Fatty acid binding protein mRNA	4252	3029.7	-1.4	1.40343928
				Rattus norvegicus clone par-4 induced by effectors of apoptosis				
U06230	I59618	P07225	75	Protein S	986	534	-1.4	1.84644195
U08214	AAA81950	XP_050405	91	DNA binding protein (URE-B1)	559.2	615.6	-1.4	0.90838207
U13396	AAA79911	XP_038595	48	Protein-tyrosine kinase (JAK2)	5544.7	4051.2	-1.4	1.3686562
U14746	AAA86874	NP_000542	87	VHL protein	817.7	581.2	-1.4	1.40691672
U17834	AAA58797	NP_001702	96	Biglycan	2897.9	2058.5	-1.4	1.40777265
U17837	AAA74468	AAC50820	67	Rattus sp. zinc finger protein RIZ mRNA	6516.1	2372.6	-1.4	2.74639636
U17919	AAA80105	NP_001614	89	Allograft inflammatory factor-1	6244.6	5843.4	-1.4	1.06865866
U24150	AAC52289	CAA53287	84	Tuberous sclerosis 2 homolog	961.5	707.3	-1.4	1.35939488
U24489	g1336153	g180964	70	Tenascin X	2575.3	1892.4	-1.4	1.36086451
U27562	AAA68708	CAA60386	60	SC1 protein	9663.9	5845.9	-1.4	1.65310731
U30381	Q62806	Q9UQR1	97	Zinc finger protein 148	9422.2	6935.2	-1.4	1.35860538
U30788				Rattus norvegicus Tclone4 mRNA	1215.3	869.3	-1.4	1.3980214
					2286	822.4	-1.4	2.77966926

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

U33540					No Human	Cytochrome P450 (CYP2B14P) pseudogene	2614.4	2554.3	-1.4	1.02352899
U35099	BAA11096	AAC50229	U35100	100		Rattus norvegicus complexin II mRNA, complete cds	848.5	828.4	-1.4	1.02426364
U41164	AAB61447	XP_044307	XM_044307	68		Rattus norvegicus Cys2/His2 zinc finger protein (rKr1)	8503.5	6252.8	-1.4	1.35995074
U42627	AAB06202	XP_017018	XM_017018	83		Dual-specificity protein tyrosine phosphatase	1323.9	650.7	-1.4	2.03457815
U47031	AAA99777	CAA68948	Y07684	84		P2x4 ATP receptor	1359.1	574.5	-1.4	2.36570931
U48288	AAB06559	NP_057332	NM_016248	62		Rattus norvegicus A-kinase anchoring protein AKAP 220	3173.3	2285.8	-1.4	1.38826669
U50842	AAB48949	BAA07655	D42055	78		Ubiquitin ligase (Nedd4) protein	14754.3	10457.9	-1.4	1.41082818
U57391	AAC52601	AAF73912	AF227967	65		FceRI gamma-chain interacting protein SH2-B	7744	5719.8	-1.4	1.35389349
U61729	AAB09057	NP_006804	NM_006813	62		Proline rich protein	753.2	540	-1.4	1.39481481
U70825	P97608	95419885	AL096750	93		5-oxo-L-prolinase	772.6	560.3	-1.4	1.37890416
U75400	AAB38315	NP_004757	NM_004766	50		Coatomer beta subunit mRNA	1787.6	1245	-1.4	1.43582329
Z78279	CAB01633	AAB27856	S64596	85	U75405	Alpha 1 type I collagen	54964.4	39299.2	-1.4	1.39861371
U75920	AAB81885	NP_036457	NM_012325	95		APC binding protein EB1 mRNA	1320.7	976.3	-1.4	1.35276042
U82623	AAB91537	NP_006779	NM_006788	71		Cytocentrin	2172.7	1539	-1.4	1.41176088
U84727	AAB41797	CAA46905	X66114	96		2-oxoglutarate carrier	7094.8	4994.9	-1.4	1.42040882
U91561	AAC23707	NP_060599	NM_018129	89		Pyridoxine 5'-phosphate oxidase	1512.5	1086.7	-1.4	1.39182847
U92802	AAC53208	AAH11634	BC011634	83		Orphan G-protein coupled receptor (GPR41)	633.5	235.6	-1.4	2.68887946
U94340	AAC53544	AAA60137	M18112	82		Poly(ADP-ribose) polymerase	2588.8	1792.5	-1.4	1.44423989
X05300	A27274	A26168	Y00281	94		Ribophorin I	4082.1	3868.5	-1.4	1.0552152
X05472						Rat 2.4 kb repeat DNA right terminal region	1069.5	1064.8	-1.4	1.00441397
X06832	CAA29988	AAA52017	J03483	53		Prechromogranin A	3133.2	2319.5	-1.4	1.35080836
X07365	CAB43593	CAB37833	Y00483	86		Glutathione peroxidase	10685.9	7853.9	-1.4	1.36058519
X12355	CAA30916	BAA11928	D83485	91		Phosphoinositide-specific phospholipase C form-I	8585.2	6297.7	-1.4	1.36322785
X12554	CAA31068	AAA52062	M83308	80		Heart cytochrome c oxidase subunit VIa	2756.5	1917.9	-1.4	1.43724907
X13411	CAA31777	XP_045572	XM_045572	98		Elk protein	3227.1	2371	-1.4	1.36107128
X13527	CAA31882	AAA73576	U29344	77		Acyl carrier protein domain of fatty acid synthetase	4495.4	3234	-1.4	1.39004329
X13983	CAA32164	XP_006925	XM_006925	67		Rat alpha-2-macroglobulin	8250.5	5950.9	-1.4	1.38642894
X14181	CAA32385	NP_000971	NM_000980	99		Ribosomal protein L18a (AA 1-175)	19578.3	13697	-1.4	1.429386

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

X17012	P01346	IGHU2	X00910	90	Insulin-like growth factor II (somatomedin A)	2696.3	1897.5	-1.4	1.42097497
X51707	CAA36003	NP_001013	NM_001022	99	Ribosomal protein S19	21837.1	15405.6	-1.4	1.41747806
X52840	CAA37024	XP_041677	XM_041677	93	Smooth muscle myosin RLC-B	888.9	631.7	-1.4	1.4071553
NM_022399	NP_071794	XP_032021	XM_032021	87	Calreticulin	4606	3244.1	-1.4	1.41980827
X56596	CAA39934	CAA60790	X87344	65	MHC class II antigen RT1.B-1 beta-chain	2144.1	302.3	-1.4	7.09262322
X60468	CAA42998	NP_001155	NM_001164	89	Integrase-like protein, APP interacting protein	4979.8	5198.2	-1.4	0.95798546
X66022		XP_009172	XM_009172	93	Neuro-D4 protein	534.4	423.9	-1.4	1.26067469
X67877	CAA48076	XP_037004	XM_037004	67	cytosolic resiniferatoxin binding protein RBP-26	1266.4	763.1	-1.4	1.65954659
X70223	CAA49756	NP_061133	NM_018663	72	22kDa integral peroxisomal membrane	1073.4	768.1	-1.4	1.39747429
X74226	CAA52297	BAB55164	AK027510	75	LL5 mRNA	4207.5	3063.3	-1.4	1.37351875
X74800	CAA52807	O00159	X98507	91	MYR2 mRNA for myosin I heavy chain	1483.7	1051.6	-1.4	1.41089768
X76489	CAA54027	NP_001760	NM_001769	79	CD9 mRNA for cell surface glycoprotein	27449.1	19594.3	-1.4	1.40087168
X89968	CAA62005	XP_038976	XM_038976	90	Alpha-soluble NSF attachment protein	14212	10308.6	-1.4	1.37865472
X90823	CAA62338	CAA62341	X90826	93	USF2a & USF2b	966.6	847.6	-1.4	1.14039641
X93591	CAA63789	XP_034901	XM_034901	90	Mismatch repair protein, MSH2	1693	954.9	-1.4	1.77296052
Y13336	CAA73780	NP_001335	NM_001344	88	DAD-1 gene	15870.7	11180.5	-1.4	1.41949823
Z18877	CAA79317	P00973	D00068	65	R.norvegicus mRNA for 2'5' oligoadenylate synthetase	5135	2231.4	-1.4	2.30124585

Table 8. Differentially Expressed Sequences Validated by Northern

			Axotomy			Northern			Spared Nerve Injury		
#	Descriptions	Accession number	Naive Intensity	Axotomy Intensity	Fold change	Regulation	Ni Intensity	SNI Int nsity	F Id	change	
1	GTP cyclohydrolase I	M58364	#	(+)	▲▲▲	↑↑↑	#	+	▲▲		
2	Guanine nucleotide-releasing protein (MSS4)	L10336	#	(++)	-	NC	(+)	+	-		
3	Enkephalinase (neutral endopeptidase)	M15944	#	(+)	▲	↑	#	(+)	▼▼		
4	Cholecystokinin receptor (CCK-B)	M99418	#	(+)	▲▲	↑↑↑	#	(+)	▲▲		
5	Endothelin-1	M64711	#	(+)	▲▲	↑↑	#	(+)	-		
6	Cannabinoid CB1 receptor	X55812	(+)	(+)	▲	↓↓	(+)	#	▼		
7	53 kD polypeptide	X02601	(+)	+	▲	↑↑↑	#	+	-		
8	ET-B endothelin receptor	X57764	(+)	+	-	NC	+	(+)	-		
9	Metallothionein-1 (EST211851)	A1102562	+	++	▲▲	↑↑	++	+	▲		
10	Small proline-rich protein (EST195714)	AA891911	(+)	++	▲▲	↑↑↑	(+)	+	▲		
11	Immediate-early serum-responsive JE (IES-JE)	X17053	+	++	▲▲	↑↑	++	++	▲		
12	5HT-3	U59672	+	#	▲▲	↓↓	+	+	▲		
13	Peripheral-type benzodiazepine receptor	J05122	++	++	▲	↑	(+)	++	▲		
14	α-2-macroglobulin	M23566	(++)	+++	▲▲	↑↑	++	++	▲		
15	Pituitary adenylate cyclase activating peptide	X80290	++	++	▲▲	↑↑	++	++	▲		
16	GFRα1 (RET ligand 1)	U97142	++	++	▲▲	↑	+	++	▲		
17	HNF-3/fork-head homolog-2 (HFH-2)	L13202	(++)	++	-	NC	++	++	▲		
18	Calcium channel α-2 subunit (CCHL2A)	M86621	++	+++	▲▲	↑↑	++	+++	▲		
19	CLP36	U23769	++	++	▲▲	↑↑	++	++	▲		
20	VGf	M74223	++	+++	▲▲	↑↑	(+)	+++	▲		
21	gadd45	L32591	++	+++	▲	↑↑	+	+++	▲		
22	Guanine nucleotide-binding protein G-i, α subunit	M12672	+++	+++	-	NC	+++	+++	-		
23	Lysozyme (EST196578)	AA892775	+++	+++	▲	↑	+++	+++	▲		
24	Phopholemman chloride channel (EST189142)	AA799645	+++	+++	▲	↑	++	+++	-		
25	SNAP-25A	AB003991	++++	+++	▼	↓	++++	+++	▲		

KEY

= below detection
 + = 1.4 fold
 ++ = 1.4 < 2 fold
 +++ = 2 < 5 fold
 ++++ = > 5 fold

() = present only on 1 chip
 NC = no change
 ↑ = slight regulation
 ↑↑ = moderate/high regulation
 ↑↑↑ = induced

Table 9. Differentially Expressed Sequences Validated by TaqMan

#	Descriptions	Accession Number	Axotomy			Taqman data		Spared Nerve Injury	
			Naive Intensity	Axotomy Intensity	Fold change	1 day Axotomy regulation/ fold change	5 day Axotomy regulation/ fold change	Naive Intensity	SNI Intensity Fold change
1	c-jun	X17163	#	#	-	↑ x5.2	↑ x3.7	#	↑↑↑
2	mGluR5	D10891	#	#	-	NC	NC	#	↓
3	NK1 receptor	M64236	#	#	-	NC	NC	(+)	↑
4	Cyclooxygenase 2	S67722	#	#	-	NC	NC	#	↑
5	c-fos	X06769	#	#	-	↑ x3.2	NC	(+)	↑
6	mGluR1	M61099	#	(+)	-	NC	NC	#	↑
7	μ opioid receptor (MOR)	S77863	#	#	-	NC	↓ x2.3	#	↑↑↑
8	Galanin	J03624	#	++++	↑↑↑	↑ x10	↑ x62	+++	↑↑↑
9	Neuronal nitric oxide synthase	U67309	#	#	↑	NC	↑ x4	#	-
10	Cannabinoid CB1 receptor	X55812	(+)	(+)	↑	NC	↓ x1.8	#	↑
11	Brain-derived neurotrophic factor	D10938	+	(+)	-	↑ x2.7	NC	+	↑
12	Cyclooxygenase 1	U03388	(+)	#	-	NC	NC	#	↑
13	Vanilloid receptor subtype 1	AF029310	++	(++)	-	↓ x1.6	↓ x2.9	(+)	↑
14	Leucine zipper protein (ATF3)	M63282	++	+++	↑↑↑	↑ x31	↑ x20	+	↑↑↑
15	Calcitonin gene-related peptide (beta)	M11596	++	(+)	↑↑	NC	↓ x2	++	↑↑
16	Voltage-gated Na channel α subunit Nav 1.9	AF059030	+++	++	↓	NC	↓ x2.4	+++	↑↑
17	Dynorphin	M32783	+++	+++	-	NC	NC	++	↑
18	Neuron-specific enolase	X07729	+++	+++	↑	NC	NC	+++	↑
19	GAP-43	L21192	+++	++++	↑↑	↑ x3.3	↑ x2	+++	↑
20	TrkA	M85214	+++	+++	-	NC	↓ x1.4	+++	↑
21	Heat shock protein 27	M86389	++++	++++	↑↑	↑ x1.8	↑ x1.8	+++	↑↑

KEY
 NC = no change
 # = present only on 1 chip
 + = below detection
 + = 100 - 1000
 ++ = 1000 - 5000
 +++ = 5000 - 10,000
 ++++ = > 10,000
 ↑ = 1.4 < < 2 fold
 ↑↑ = 2 < < 5 fold
 ↑↑↑ = > 5 fold

Table 10

UniGene Ref. No.	Rat gene	Rat gene SEQ ID NO:	Rat Protein	Rat protein SEQ ID NO:	Human Genes	Human gene SEQ ID NO:	Human Protein	Human protein SEQ ID NO:	% homology	Identifier	Descriptions	Protein Type	Function
Rn.32253	AF052042	894	Q9Z2K3	895	NM_014019	896	NP_115540	897	89.47	Rattus norvegicus zinc finger protein Y1 (RLZF-Y) mRNA, complete cds	AF052042 Rattus norvegicus zinc finger protein Y1 (RLZF-Y) mRNA, complete cds	Zinc finger protein 94 (Zfp-94) (Zinc finger protein Y1) (RLZF-Y).	transcriptional regulation
Rn.10883	AJ001029	1338	O55170	1339	BC007595	1340	P56693	1341	91.28	Sox10 protein	AJ001029 Rattus norvegicus mRNA for Sox10 protein /cds=(582,198 2) /gb=AJ00102 9 /gj=2695880 /ug=Rn.10883 /len=3030	Transcription factor SOX- 10.	transcriptional regulation
Rn.37779	D14441	10680	Q05175	10681	AF039656	10682	P80723	10683	72	Brain acidic membrane protein	D14441 RATNAP22 Rat NAP-22 mRNA for acidic membrane protein of rat brain, complete cds	Brain acid soluble protein 1 (BASP1 protein) (Neuronal axonal membranepr otein NAP- 22).	cytoskeleton and cell adhesion

Table 10

D38222	10708	ig1054835	10709	L18983	10710	Q16849	10711	86	Tyrosine phosphatase-like protein IA-2a	D38222 RATPDPTPLP Rat mRNA for protein tyrosine phosphatase-like protein, complete cds	signal transduction
Rn.11015	2187	BAA19614	2188	AK024034	2189	P42356	2190	93.91	Phosphatidylinositol 4-kinase	D83538 Rat mRNA for 230kDa phosphatidylinositol 4-kinase, complete cds /cds=(391,651-6) /gb=D83538 /gi=1339965 /ug=Rn.11015 /len=6857	signal transduction
Rn.8929	10810	P10683	10811	M77140	10812	P22466	10813	90.2	Galanin	J03624 Rat galanin (a neuropeptide) mRNA, complete cds /cds=(144,518-) /gb=J03624 /gi=204236 /ug=Rn.8929 /len=699	neurotransmission

Table 10

K02248	2697	AAAA42161	2698	NM_001048	2699	NP_001039	2700	85	Somatostatin-14 gene, complete cds	K02248cds RATSOM141 Rat somatostatin-14 gene, complete cds	neurotransmission
Rn.11347	2754	Q02765	2755	M90696	2756	P25774	2757	76	Cathepsin S	L03201 Rattus norvegicus cathepsin S mRNA, complete cds (27,1019) /gb=L03201 /gi=203649 /lug=Rn.11347 /len=1330	immunologic
Rn.11495	2928	Q06195	2929	AC005944	2930	AAC72103	2931	80	R-esp1	L14462 RATESP1A Rattus rattus R-esp1 mRNA, complete cds	transcriptional regulation
Rn.10250	3180	P48317	3181	M60974	3182	P24522	3183	95	gadd45	L32591mRNA A RATGADD45 X Rattus norvegicus GADD45 mRNA, complete cds	cell stress

Table 10

Rn.6658	M36410	3684	P18297	3685	M76231	3686	P35270	3687	74	Sepiapterin reductase	M36410 Rat sepiapterin reductase mRNA, partial cds /cds=(0,779) /gb=M36410 /gi=206895 /lug=Rn.6658 /len=1157	Sepiapterin reductase (EC 1.1.1.153) (SPR).	signal transduction
Rn.9664	M63282	10985	P29596	10986	NM_004024	10987	P18847	10988	88.18	Activating transcription factor 3	M63282 Rat leucine zipper protein mRNA, complete cds /cds=(162,707)/gb=M63282 /gi=205236 /lug=Rn.9664 /len=1893	Cyclic-AMP-dependent transcription factor ATF-3 (Activating transcription factor 3) (Liver regeneration factor 1) (LRF-1).	transcriptional regulation
Rn.9704	M74223	11007	P20156	11008	BF223121	11009	g5630085	94.34	94.34	VGf nerve growth factor inducible	M74223 Rat VGf mRNA, complete cds /cds=(183,203 6) /gb=M74223 /gi=207650 /lug=Rn.9704 /len=2507	Neurosecretory protein VGf precursor (VGf8a protein).	intercellular signals

Table 10

Rn.37438	U02315	7931	P43322	7932	U02327	7933	Q12784	7934	96.92	Clone ndf04 neu differentiation factor mRNA, partial cds	U02315 Rattus norvegicus clone ndf04 neu differentiation factor mRNA, partial cds /cds={0.694} /gb=U02315 /gi=408380 /lug=Rn.10311 /len=1043	Pro- neuregulin-1 precursor (Pro-NRG1) [Contains: Neuregulin-1 (Neuregulin-1 differentiation factor) (Heregulin) (HRG) (Acetylcholin e receptorindu cing activity) (ARIA) (Sensory and motor neuron derived factor)(G	intercellular signals
Rn.88489	U97142	11997	Q62997	11998	AF042080	11999	P56159	12000	90.19	Glial cell line- derived neurotrophic factor receptor alpha (42 on d.s.)	U97142 Rattus norvegicus RET ligand 1 (RET1) mRNA, complete cds /cds={256,166 2) /gb=U97142 /gi=2282021 /lug=Rn.6281 /len=3616	GDNF receptor alpha precursor (GDNFR- alpha) (TGF- beta relatedneurot rophic factor receptor 1) (RET ligand (RET ligand 1).	signal transduction

Table 10

X58631	12072	PT0183	12073	L36645	12074	P54764	12075	94	ESTs, Highly similar to PT0183 protein-tyrosine kinase [R.norvegicus]	X58631 cds RPTYKI Rat mRNA for protein-tyrosine kinase	signal transduction
Rn.9923	3574	P09951	3575	XM_013120	8748	NP_006804	8749	64	Synapsin Ia mRNA	M27812 Rat synapsin Ia mRNA, complete cds /cds=(80,2194) /gb=M27812 /gi=206920 /ug=Rn.9923 /len=2400	Synapsin I. neurotransmission
Rn.10967	8746	AAB09057	8747	AW974441	8748	NP_006804	8749	91.26	Rattus norvegicus proline rich protein mRNA, complete cds	U61729 Rattus norvegicus proline rich protein mRNA, complete cds /cds=(175,984) /gb=U61729 /gi=1408276 /ug=Rn.10967 /len=1619	unknown

Table 10

Rn.5658	AF026529	10553	O35414	10554	AJ303455	10555	Q9H169	10556	95.19	Stathmin-like protein RB3	AF026529 Rattus norvegicus stathmin-like-protein splice variant RB3 mRNA, complete cds /cds=(120,650) /gb=AF026529 /gi=2585992 /ug=Rn.5658 /len=1305	Stathmin 4 (Stathmin-like protein B3) (RB3).	cytoskeleton and cell adhesion
Rn.30023	AF059030	908	AAC40199	909	AF150882	910	NP_000326	911	92.31	Sodium channel, voltage-gated, type XI, alpha polypeptide (SNS2)	AF059030 Rattus norvegicus voltage-gated Na channel alpha subunit NaN mRNA, complete cds		ion channels and transporters
Rn.17160	AJ131902	10646	O55148	10647	AK057761	10648	O60861	10649	92.86	Growth arrest specific 7	AJ131902 RNO131902 Rattus norvegicus mRNA for GAS-7 protein	Growth-arrest-specific protein 7 (GAS-7).	cytoskeleton and cell adhesion

Tabl 10

Rn.3884	D00688	10654	IBAA00592	10655	NM_000240	10656	P21397	10657	82	Monoamine oxidase A	D00688 RATMAOA Rat monoamine oxidase A gene, complete cds	neurotransmission
Rn.25174	D14839	1773	P36364	1774	NM_002010	1775	P31371	1776	99	Fibroblast growth factor 9	D14839 Rat mRNA for FGF-9, complete cds (/cds=(177,803 (GAF)) /gb=D14839 (Fibroblast) /gi=391852 /ug=Rn.25174 /len=1084	intercellular signals
	D49395	2087	BAA08388	2088	NM_000869	2089	P46098	2090	82	Serotonin 5-HT3 receptor	D49395 RATS5HT3R B Rat mRNA for serotonin 5-HT3 receptor, complete cds	neurotransmission
Rn.1820	J05122	2605	P16257	2606	XM_040167		XP_040167		79	Benzodiazepine receptor (peripheral)	J05122 Rat peripheral-type benzodiazepine receptor (PBR) (PKBS) (Mitochondrial benzodiazepine receptor). complete cds (/cds=(34,543) /gb=J05122 /gi=206161 /ug=Rn.1820 /len=781	unknown

Table 10

L21192	10882	A26964	10883	S66541	10884	I52638	84	Growth accentuating protein 43	L21192 Rat GAP-43 gene /cds=(56,736) /gb=L21192 /gi=310121 /lug=Rn.10928 /len=1325	cytoskeleton and cell adhesion	
Rn.9714	10919	P07808	10920	K01911	10921	P01303	88.66	Neuropeptide Y	M15880 Rat neuropeptide Y mRNA, complete cds /cds=(68,364) /gb=M15880 /gi=205756 /lug=Rn.9714 /len=539	Neuropeptide Y precursor (NPY).	neurotransmission
Rn.28195	10969	P22288	10970	U63810	10971	O76071	92.83	GTP cyclohydrolase 1	M58364 Rat GTP cyclohydrolase 1 mRNA, complete cds /cds=(127,852)/gb=M58364 /gi=204536 /lug=Rn.5933 /len=1016	GTP cyclohydrolase 1 precursor (EC 3.5.4.16) (GTP-CH-I).	signal transduction

Table 10

Rn.10449	M83561	3981	P22756	3982	U16125	3983	P39086	3984	97	Glutamate receptor, ionotropic, kainate 1	M83561 Rattus norvegicus glutamate receptor subunit 5-2 (GluR5-2), kainate subtype mRNA, complete cds /cds=(187,2904) /gb=M83561 /gi=204389 /ug=Rn.10449 /len=3185	"Glutamate receptor, ionotropic kainate 1 precursor (Glutamate receptor5) (GLUR-5) (GluR5)."	neurotransmission
Rn.3841	M86389	11029	P42930	11030	L39370	11031	HHHU27	11032	82	Heat shock 27 kDa protein (33 on d.s.)	M86389cds RATHSP27A Rat heat shock protein (Hsp27) mRNA, complete cds	Heat shock 27 kDa protein (HSP 27).	cell stress

Table 10

Rn.11276	M86621	11033	P54290	11034	M76560	11035	Q02641	11036	95	Calcium channel subunit alpha 2 delta (dihydropyridine - sensitive L-type)	M86621 Rat dihydropyridine-sensitive L-type calcium channel alpha-2 subunit (CCHL2A) gene, complete cds /cds=(154,3429) /gb=M86621 /gi=203954 /ug=Rn.11276 /len=3804	Dihydropyridine-sensitive L-type, calcium channel alpha-2/delta subunits precursor.	ion channels and transporters
Rn.11366	M88709	11040	P32736	11041	L34774	11042	Q14982	11043	92.08	Cell adhesion-like molecule	M88709 Rattus norvegicus cell adhesion-like molecule mRNA, complete CDS /cds=(637,1653) /gb=M88709 /gi=203245 /ug=Rn.11366 /len=3054	Opioid binding protein/cell adhesion molecule precursor (OBCAM)(Opioid-binding cell adhesion molecule) (OPCML).	cytoskeleton and cell adhesion

Table 10

Rn.45602	M93669	4117	P10362	4118	BC022509	4119	P13521	4120	83.93	Secretogranin II	M93669 Rat secretogranin II mRNA, complete cds (30,1889) /gb=M93669 /gi=206902 /ug=Rn.11392 /len=2289	Secretogranin II precursor (SGII) (Chromogranin C).	Secretogranin II precursor	neurotransmission
Rn.9727	M98049	11048	P25031	11049	D13510	11050	Q06141	11051	80.22	Pancreatitis-associated protein precursor (pap)	M98049 RATPAP Rattus rattus pancreatitis-associated protein (pap) mRNA, complete cds	Pancreatitis-associated protein 1 precursor (Peptide 23) (REG-2).	intercellular signals	
Rn.37438	U02320	7939	AAA19945	7940	NM_013957	7941	Q12784	7942	90	Rattus norvegicus clone ndf40 neuron differentiation factor	U02320 RNU02320 Rattus norvegicus clone ndf40 neuron differentiation factor mRNA, partial cds		intercellular signals	

Table 10

Rn.11189	U12187	11824	P55043	11825	L24564	11826	P55042	11827	90	Ras-related protein (rad)	U12187 Rattus norvegicus ras-related protein (rad) mRNA, complete cds /cds=(258,1064) /gb=U12187 /gi=595472 /ug=Rn.11189 /len=1421	GTP-binding protein RAD associated with diabetes (RAD1).	signal transduction
Rn.37434	U16655	8162	AAC52346	8163	AK023083	8164	NP_116115	8165	85.45	Phospholipase C delta-4 mRNA	U16655 Rattus norvegicus phospholipase C delta-4 mRNA, complete cds /cds=(142,2460) /gb=U16655 /gi=571465 /ug=Rn.11356 /len=2696	signal transduction	signal transduction

Table 10

Rn.11333	U23407	8326	P51673	8257	M68867	8258	P29373	8259	88.63	cellular retinoic acid- binding protein II (CRABP II)	U23407 Rattus norvegicus cellular retinoic acid- binding protein II (CRABP II) mRNA, complete cds /cds=(111,530) /gb=U23407 /gi=727432 /ug=Rn.11333 /len=817	"Retinoic acid-binding protein II, cellular (CRABP-II)."	transcriptional regulation
Rn.10163	U28938	8322	T14328	8323	AF187042	8324	S60613	8325	88.55	Receptor- type protein tyrosine phosphatase D30	U28938 Rattus norvegicus protein tyrosine phosphatase D30 mRNA, complete cds /cds=(62,3712) /gb=U28938 /gi=1144001 /ug=Rn.10163 /len=4871		signal transduction

Table 10

Rn.30176	U42719	8557	AAA91231	8558	NM_007293	8559	P01028	8560	87	Complement component 4	U42719 Rattus norvegicus C4 complement protein mRNA, partial cds /cds=(0,317) /gb=U42719 /gi=1213489 /lug=Rn.24913 /len=347		immunologic
Rn.9149	U49953	8604	P35465	8605	XM_034970		XP_034970		92	protein kinase MUK2	U49953 Rattus norvegicus protein kinase MUK2 mRNA, complete cds /cds=(388,2022) /gb=U49953 /gi=1399507 /lug=Rn.9149 /len=2539	Serine/threonine-protein kinase PAK1 (EC 2.7.1.-) (p21-activated kinase 1) (PAK-1) (P68-PAK) (Alpha-PAK) (Protein Kinase MUK2).	signal transduction

Table 10

Rn.6940	U53184	8661	No Rat Protein Found.	AB034747	8652	Q99732	8663	83.41	estrogen-responsive uterine mRNA	U53184 Rattus norvegicus estrogen-responsive uterine mRNA, partial sequence /cds=UNKNO WN /gb=U53184 /gi=1279978 /ug=Rn.6940 /len=2006	transcriptional regulation
Rn.44367	U76252	8911	P07314	8912 AL117414	8913	P36269	8914	87.03	Gamma-glutamyltransferase-like activity 1	U76252 RNU76252 Rattus norvegicus gamma glutamyl transpeptidase-related enzyme mRNA, partial cds	metabolism
Rn.42890	U78517	8940	AAD03423	8941 XM_002437	8942	XP_002437	8943	95	Rattus norvegicus cAMP-regulated guanine nucleotide exchange factor II (cAMP-GEFII) mRNA, partial cds	U78517 RNU78517 Rattus norvegicus cAMP-regulated guanine nucleotide exchange factor II (cAMP-GEFII) mRNA, partial cds	signal transduction

Table 10

Rn.18675	X02341	12012	CAA26200	12013	NM_003381	12014	P01282	12015	84	Vasoactive intestinal polypeptide (VIP) precursor	X02341cds RNVIPR Rat mRNA for vasoactive intestinal polypeptide (VIP) precursor	neurotransmission
Rn.1419	X16273	9465	CAA34349	9466	NM_000295	9467	P01009	9468	66	serine proteinase inhibitor-like protein	X16273cds RNSPILP Rat mRNA for serine proteinase inhibitor-like protein, partial	intercellular signals
	X17053	12048	CAA34901	12049	NM_005408	12050	Q99616	12051	53	Immediate-early serum-responsive JE gene (6 on d.s.)	X17053mRNA RATJE Rat immediate-early serum-responsive JE gene	intercellular signals
	X17163	9493	CAA35084	9494	J04111	9495	AAA59197	9496	78	c-jun proto oncogene (JUN)	X17163cds RSJUNAP1 Rat c-jun oncogene mRNA for transcription factor AP-1	transcriptional regulation

Table 10

Rn.1920	X56306	9625	P06767	9626	X54469	9627	P20366	9628	93.07	Tachykinin (substance P, neurokinin A, neuropeptide K, neuropeptide gamma)	X56306 Rat mRNA of delta- preprotachykinin - a splicing variant of substance P precursor /cds=(4,297) /gb=X56306 /gi=56067 /lug=Rn.1920 /len=342	Protachykinin 1 precursor (PPT) [Contains: Substance P; Neurokinin A(NKA) (Substance K) (Neuromedin L); Neuropeptide K (NPK); Neuropeptide gamma; C-terminal flanking peptide].	neurotransmission
Rn.5820	X62322	9788	P23785	9789	X62320	9790	P28799	9791	89.93	Granulin	X62322 R.nonvegicus mRNA for epithelin 1 and 2 /cds=(30,1799) /gb=X62322 /gi=56108 /lug=Rn.5820 /len=2137	Granulins precursor (Acrogratin) [Contains: Granulin 1 (Granulin G); Granulin 2 (Granulin F); Granulin 3 (Granulin B) (Epithelin 2); Granulin 4 (Granulin A) (Epithelin 1); Granulin 5 (Granulin C); Granulin	intercellular signals

Table 10

Rn.10321	X66974	9922	P47728	9923	NM_007087	9924	P22676	9925	92.88	R.norvegicus mRNA for calretinin	X66974 R.norvegicus mRNA for calretinin /cds=(54,869) /gb=X66974 /gi=55852 /ug=Rn.10321 /len=1436	Calretinin (CR).	metabolism
Rn.6702	X71127	9980	P31721	9981	X03084	9982	P02746	9983	81.22	complement protein C1q beta chain	X71127 R.norvegicus mRNA for complement protein C1q beta chain /cds=(187,948) /gb=X71127 /gi=510191 /ug=Rn.6702 /len=1095	"Complement C1q subcomponent, B chain precursor."	immunologic
Rn.40121	X74978	10028	NP_064457	10029	XM_039822	10030	XP_039822	10031	74	Prostatic acid phosphatase	X74978exon RNACPP11 R.norvegicus gene for prostatic acid phosphatase, exon 11		signal transduction
Rn.6087	Y13275	10305	CAA73724	10306	BC005246	10307	P19075	10308	86.27	D6.1A protein	Y13275 Rattus norvegicus mRNA for D6.1A protein /cds=(229,936) /gb=Y13275 /gi=2765305 /ug=Rn.6087 /len=1164		unknown

Table 10

Rn.45803	Y16188	10351	CAA76114	10352	Y16187	10353	CAA76113	10354	XCE protein	Y16188 HSY16188 Rattus norvegicus mRNA for XCE protein, partial	intercellular signals
Rn.30012	Y17606	10371	CAA76804	10372	AF043473	10373	XP_009523	10374	Potassium channel, alpha subunit (Kv9.1)	Y17606 RNO17606 Rattus norvegicus mRNA for potassium channel, alpha subunit (Kv9.1)	ion channels and transporters
Rn.10878	Y17607	10375	CAA76805	10376	BC004987	10377	NP_002243	10378	Rattus norvegicus mRNA for potassium channel, alpha subunit (Kv9.3)	Y17607 RNO17607 Rattus norvegicus mRNA for potassium channel, alpha subunit (Kv9.3)	ion channels and transporters
Rn.17883	AF076183	1076	AAC31815	1077	AL137271	1078	XP_006499	90.23	Cytosolic sorting protein PACS-1a	AF076183 Rattus norvegicus cytosolic sorting protein PACS-1a (PACS-1) mRNA, complete cds	vesicle traffic

Table 10

D14014	1719	IBAA03115	1720	X59798	1721	P24385	1722	82	Cyclin D1	D14014 RATCYCLD1 Rat mRNA for cyclin D1, complete cds	cell stress
Rn.7044	10842	P35053	10843	X54232	10844	P35052	10845	87.92	Glypican 1	L02896 Rattus norvegicus major heparan sulfate proteoglycan (glypican) mRNA, complete cds /cds=(221,189 7) /gb=L02896 /gi=204424 /ug=Rn.7044 /len=3497	extracellular matrix
Rn.88804	3231	Q63722	3232	NM_002226	3233	Q9Y219	3234	54	Jagged 1	L38483 Rattus norvegicus jagged protein mRNA, complete cds /cds=(386,404 5) /gb=L38483 /gi=1492110 /ug=Rn.11254 /len=5575	signal transduction

Table 10

X57405	9644	CAA40667	9645	XM_034671	9646	XP_034671	9647	51	Homologue of Drosophila notch protein	X57405 RRNOTCH R.rattus mRNA homologue of Drosophila notch protein		signal transduction
Rn.18	2663	P02688	2664	XM_040888		XP_040888			Myelin basic protein (mbp) gene mrna	K00512 rat myelin basic protein (mbp) gene mrna /cds=UNKNO WN /gb=K00512 /gi=205320 /ug=Rn.9672 /len=1464	Myelin basic protein S (MBP S).	extracellular matrix
Rn.10531	8593	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			CTD-binding SR-like protein rA4 mRNA (alternatively spliced no protein added here)	U49058 Rattus norvegicus CTD-binding SR-like protein rA4 mRNA, partial cds /cds=UNKNO WN /gb=U49058 /gi=1438535 /ug=Rn.10531 /len=4180		unknown

Table 10

Rn.7106	U88324	11978	P54311	11979	AY007113	11980	RGHUB1	11981	95.71	Guanine nucleotide-binding protein beta	U88324 RNU88324 Rattus norvegicus G protein beta1 subunit (rGb1) mRNA, complete cds	Guanine nucleotide-binding protein G(i)/G(s)/G(t) beta subunit 1(Transducin beta chain 1).	signal transduction
	M10934	3258	AAA42020	3259	NM_006744	3260	P02753	3261	85	Rat retinol-binding protein (RBP) mRNA, partial cds	M10934 RATRBPA Rat retinol-binding protein (RBP) mRNA, partial cds		metabolism
Rn.87331	M22357	3426	P07722	3427	NM_080600	3428	P20916	3429	88.91	Rat 1B236/myelin-associated glycoprotein (MAG)	M22357 Rat 1B236/myelin-associated glycoprotein precursor (L-MAG) mRNA, complete cds /cds=(110,185-8) /gb=M22357 /gi=205271 /ug=Rn.9668 /len=2468	Myelin-associated glycoprotein precursor (L-MAG/S-MAG) (Brainneuron cytoplasmic protein 3).	extracellular matrix

Table 10

Rn.220	M93257	4103	CAA78276	4104	XM_033799	XP_033799	79	catechol-O-methyltransferase	M93257 RATSLCCOMT Rattus norvegicus catechol-O-methyltransferase mRNA, 3' flank	neurotransmission
Rn.19927	U68272	8835	AAB17055	8836	AF056979	8837 P15260	42	interferon gamma receptor	U68272 RNU68272 Rattus norvegicus interferon gamma receptor mRNA, partial cds	signal transduction
Rn.5789	X89698	10158	CAA61845	10159	AF399579	10160 AAK95064	69	TPCR09 protein (putative olfactory receptor)	X89698cds RNTPCR09P R.norvegicus mRNA for TPCR09 protein	signal transduction
Rn.5789	AB008538	135	BAA23279	136	NM_001627	137 Q13740	89	HB2	AB008538 Rattus norvegicus mRNA for HB2, complete cds /cds=(188,1939) /gb=AB008538 /gj=2589006 /lg=Rn.5789 /len=2866	signal transduction

Table 10

Rn.84437	AB012234	219	P70257	220	U18759	221	Q14938	222	100	NF1-X1, partial cds	AB012234 Rattus norvegicus mRNA for NF1-X1, partial cds /cds=(0,535) /gb=AB012234 /gi=2982735 /lug=Rn.9647 /len=601	transcriptional regulation
Rn.12089	AF063102	966	T14324	967	AW238191	968	BAA34506	969	99.28	Alpha-latrotoxin receptor, calcium-independent	AF063102 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 2 (CIRL-2) mRNA, complete cds	signal transduction
Rn.22685	AJ006855	1400	Q62910	1401	AF009039	1402	O43426	1403	89.07	Synaptojanin 1	AJ006855 RNAJ6855 Rattus norvegicus mRNA for synaptojanin	neurotransmission

Table 10

Rn.1072	AJ007016	1412	CAA07417	1413	AI816111	1414	NP_003470	1415	93.2	protein tyrosine phosphatase	AJ007016 RNO7016 Rattus norvegicus mRNA for protein tyrosine phosphatase	cytoskeleton and cell adhesion
Rn.87329	D00189	1521	BAA00129	1522	ATP1A3		S00801	1523	99	Na ⁺ ,K ⁺ - ATPase alpha- subunit	D00189 Rattus norvegicus mRNA for Na ⁺ ,K ⁺ - ATPase alpha- subunit, complete cds /cds=(140,318 1) /gb=D00189 /gi=220825 /lug=Rn.10312 /len=3557	ion channels and transporters
Rn.19481	D12769	1643	Q01713	1644	NM_001206	1645	Q13886	1646	91	Rattus norvegicus mRNA for BTE binding protein, complete cds	D12769 RATBTEB Rattus norvegicus mRNA for BTE binding protein bindingprotein n 1) (BTE- binding protein 1) (GC box binding protein 1).	Transcription transcriptional regulation

Table 10

Rn.92307	M15523	3328	AAA41877	3329	NM_005400	3330	Q02156	3331	83	Rat protein kinase C- family related mRNA, partial cds, clone RP16	M15523 RATPKCLB Rat protein kinase C- family related mRNA, partial cds, clone RP16	signal transduction	
Rn.9743	M16112	3364	P08413	3365	AF081924	3366	Q9UNX7	3367	93.8	brain type II Ca2+/calmodulin-dependent protein kinase	M16112 Rat brain type II Ca2+/calmodulin-dependent protein kinase beta subunit mRNA, complete cds /cds=(62,1690) /gb=M16112 /gi=206170 /ug=Rn.9743 /len=1840	Calcium/calmodulin-dependent protein kinase type II beta chain (EC2.7.1.123) (CaM-kinase II beta chain) (CaM kinase II beta subunit)(CaM K-II beta subunit).	signal transduction
Rn.2204	M91652	4079	P09606	4080	Y00387	4081	P15104	4082	92	Glutamine synthetase (glutamate-ammonia ligase)	M91652completeSeq Rat glutamine synthetase (glnA) mRNA, complete cds /cds=UNKNO WN /gb=M91652 /gi=204348 /ug=Rn.2204 /len=2793	Glutamine synthetase (EC 6.3.1.2) (Glutamate--ammonia ligase).	metabolism

Table 10

Rn.11412	S65355	7652	AAB28172	7653	NM_000115	7654	P24530	7655	86	nonselective-type endothelin receptor	S65355 nonselective-type endothelin receptor [rats, brain, mRNA, 2018 nt]	signal transduction
Rn.19032	U52950	8645	AAB17068	8646	NM_005909	8647	NP_005900	8648	89	Microtubule-associated protein 1B mRNA	U52950 RNU52950 Rattus norvegicus microtubule-associated protein 1B mRNA, partial cds	cytoskeleton and cell adhesion
Rn.94200	U57715	8712	AAB07050	8713	XM_052871		XP_052871		88	FGF receptor activating protein FRAG1	U57715 Rattus norvegicus FGF receptor activating protein FRAG1 (FRAG1) mRNA, complete cds /cds=(722,148 6) /gb=U57715 /gi=1518608 /ug=Rn.11001 /len=1719	signal transduction

Table 10

Rn.10559	U67081	8814	AAB40718	8815	AK057398	8816	AAF14051	8817	93.21	C2-HC type zinc finger protein r- MyT2 mRNA	U67081 Rattus norvegicus C2- HC type zinc finger protein r MyT2 mRNA, complete cds /cds=(0,2448) /gb=U67081 /gi=1531646 /lug=Rn.10559 /len=2812	transcriptional regulation
	X13905	9348	CAA32105	9349	NM_004161	9350	P11476	9351	91	rab1B protein	X13905cds RNRAB1B Rat cDNA for ras-related rab1B protein	vesicle traffic
Rn.10317	X67877	9942	CAA48076	9943	XM_037004	9944	XP_037004	9945	67	cytosolic resiniferatoxi n binding protein RBP- 26	X67877 R.norvegicus mRNA for cytosolic resiniferatoxin- binding protein /cds=(28,735) /gb=X67877 /gi=311659 /lug=Rn.10317 /len=1526	unknown

Table 11

UniGene Ref. No.	Rat gene	Rat gene SEQ ID NO:	Rat Protein	Rat protein SEQ ID NO:	Human Genes	Human gene SEQ ID NO:	Human Protein	Human protein SEQ ID NO:	% homology	Identifier	Descriptions	Protein Type	Function
Rn.11015	D83538	2187	BAA19614	2188	AK024034	2189	P42356	2190	93.91	Phosphatidylinositol 4-kinase	D83538 Rat mRNA for 230kDa phosphatidylinositol 4-kinase, complete cds /cds=(391,651-6) /gb=D83538 /gi=1339965 /ug=Rn.11015 /len=6857		signal transduction
Rn.11347	L03201	2754	Q02765	2755	M90696	2756	P25774	2757	76	Cathepsin S	L03201 Rattus norvegicus cathepsin S mRNA, complete cds /cds=(27,1019) /gb=L03201 /gi=203649 /ug=Rn.11347 /len=1330	Cathepsin S precursor (EC 3.4.22.27).	immunologic

Table 11

Rn.10250	L32591	3180	P48317	3181	M60974	3182	P24522	3183	95	gadd45	L32591mRNA A RATGADD45 X Rattus norvegicus GADD45 mRNA, complete cds	Growth arrest and DNA- damage- inducible protein GADD45 alpha (DNA- damage inducible transcript 1) (DDIT1).	cell stress
Rn.6658	M36410	3684	P18297	3685	M76231	3686	P35270	3687	74	Septaplerin reductase	M36410 Rat sepiapterin reductase mRNA, partial cds /cds=(0,779) /gb=M36410 /gi=206895 /ug=Rn.6658 /len=1157	Septaplerin reductase (EC 1.1.1.153) (SPR).	signal transduction
Rn.9704	M74223	11007	P20156	11008	BF223121	11009	g5630085		94,34	VEGF nerve growth factor inducible	M74223 Rat VEGF mRNA, complete cds /cds=(183,203 6) /gb=M74223 /gi=207650 /ug=Rn.9704 /len=2507	Neurosecret ory protein VEGF precursor (VEGF8a protein).	intercellular signals

Table 11

Rn.88489	U97142	11997	Q62997	11998	AF042080	11999	P56159	12000	90.19	Glial cell line-derived neurotrophic factor receptor alpha (42 on d.s.)	U97142 Rattus norvegicus RET ligand 1 (RET1) mRNA, complete cds /cds=(256,1662) /gb=U97142 /gi=2282021 /ug=Rn.6281 /len=3616	GDNF receptor alpha precursor (GDNFR-alpha) (TGF-beta related neurotrophic factor receptor 1) (RET ligand 1).	signal transduction
	X58631	12072	PT0183	12073	L36645	12074	P54764	12075	94	ESTs, Highly similar to PT0183 protein-tyrosine kinase [R.norvegicus]	X58631cds RPTYKI Rat mRNA for protein-tyrosine kinase		signal transduction
Rn.25174	D14839	1773	P36364	1774	NM_002010	1775	P31371	1776	99	Fibroblast growth factor 9	D14839 Rat mRNA for FGF-9, complete cds /cds=(177,803) /gb=D14839 /gi=391852 /ug=Rn.25174 /len=1084	Glia-activating factor precursor (GAF) (Fibroblast growth factor-9)(FGF-9) (HBGF-9).	intercellular signals

Table 11

Rn.1820	J05122	2605	P16257	2606	XM_040167	XP_040167	79	Benzodiazepine receptor (peripheral)	J05122 Rat peripheral-type benzodiazepine receptor (PKBS) mRNA, complete cds /cds=(34,543) /gb=J05122 /gi=206161 /ug=Rn.1820 /len=781	Peripheral-type benzodiazepine receptor (PBR) (PKBS) (Mitochondrial benzodiazepine receptor).	unknown
Rn.28195	M58364	10969	P22288	10970	U63810	10971	92.83	GTP cyclohydrolase 1	M58364 Rat GTP cyclohydrolase 1 mRNA, complete cds /cds=(127,852) /gb=M58364 /gi=204536 /ug=Rn.5933 /len=1016	GTP cyclohydrolase 1 precursor (EC 3.5.4.16) (GTP-CH-I).	signal transduction

Table 11

Rn.10163	U28938	8322	T14328	8323	AF187042	8324	S60613	8325	88.55	Receptor- type protein tyrosine phosphatase D30	U28938 Rattus norvegicus protein tyrosine phosphatase D30 mRNA, complete cds /cds=(62,3712) /gb=U28938 /gi=1144001 /ug=Rn.10163 /len=4871	signal transduction	
Rn.9149	U49953	8604	P35465	8605	XM_034970		XP_034970		92	protein kinase MUK2	U49953 Rattus norvegicus protein kinase MUK2 mRNA, complete cds /cds=(388,202 2) /gb=U49953 /gi=1399507 /ug=Rn.9149 /len=2539	Serine/threo nine-protein kinase PAK 1 (EC 2.7.1.-) (p21- activatedkina se 1) (PAK- 1) (P68-PAK) (Alpha-PAK) (Protein kinase MUK2).	signal transduction
	X17053	12048	CAA34901	12049	NM_005408	12050	Q99616	12051	53	Immediate- early serum- responsive JE gene (6 on d.s.)	X17053mRNA RATJE Rat immediate- early serum- responsive JE gene	intercellular signals	

Table 11

Rn.45803	Y16188	10351	CAA76114	10352	Y16187	10353	CAA76113	10354	XCE protein	Y16188 HSY16188 Rattus norvegicus mRNA for XCE protein, partial	intercellular signals
Rn.30012	Y17606	10371	CAA76804	10372	AF043473	10373	XP_009523	10374	Potassium channel, alpha subunit (Kv9.1)	Y17606 RNO17606 Rattus norvegicus mRNA for potassium channel, alpha subunit (Kv9.1)	ion channels and transporters
Rn.10878	Y17607	10375	CAA76805	10376	BC004987	10377	NP_002243	10378	Rattus norvegicus mRNA for potassium channel, alpha subunit (Kv9.3)	Y17607 RNO17607 Rattus norvegicus mRNA for potassium channel, alpha subunit (Kv9.3)	ion channels and transporters
Rn.19927	U68272	8835	AAB17055	8836	AF056979	8837	P15260	8838	interferon gamma receptor	U68272 RNU68272 Rattus norvegicus interferon gamma receptor mRNA, partial cds	signal transduction
	X89698	10158	CAA61845	10159	AF399579	10160	AAK95064	10161	TPCR09 protein (putative olfactory receptor)	X89698cds RNTPCR09P R.norvegicus mRNA for TPCR09 protein	signal transduction

Table 11

Rn.94200	U57715	8712	AAB07050	8713	XM_052871	XP_052871	88	FGF receptor activating protein FRAG1	U57715 Rattus norvegicus FGF receptor activating protein FRAG1 (FRAG1) mRNA, complete cds /cds=(722,148 6) /gb=U57715 /gi=1518608 /lug=Rn.11001 /len=1719	signal transduction
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Vectors and Host Cells

In addition to providing genes which are differentially expressed in animals which have been subjected to pain, the present invention further provides vectors and plasmids useful for directing the expression of differentially expressed genes, or therapeutic nucleic acid constructs, and further provides host cells which express the vectors and plasmids provided herein. Nucleic acid sequences useful for the expression from a vector or plasmid as described below include, but are not limited to any nucleic acid or gene sequence identified as being differentially regulated by the methods described above, and further include therapeutic nucleic acid molecules, such as antisense molecules. The host cell may be any prokaryotic or eukaryotic cell. Ligating the polynucleotide sequence into a gene construct, such as an expression vector, and transforming or transfecting into hosts, either eukaryotic (yeast, avian, insect or mammalian) or prokaryotic (bacterial cells), are standard procedures well known in the art.

Vectors

There is a wide array of vectors known and available in the art that are useful for the expression of differentially expressed nucleic acid molecules according to the invention. The selection of a particular vector clearly depends upon the intended use the polypeptide encoded by the differentially expressed nucleic acid. For example, the selected vector must be capable of driving expression of the polypeptide in the desired cell type, whether that cell type be prokaryotic or eukaryotic. Many vectors comprise sequences allowing both prokaryotic vector replication and eukaryotic expression of operably linked gene sequences.

Vectors useful according to the invention may be autonomously replicating, that is, the vector, for example, a plasmid, exists extrachromosomally and its replication is not necessarily directly linked to the replication of the host cell's genome. Alternatively, the replication of the vector may be linked to the replication of the host's chromosomal DNA, for example, the vector may be integrated into the chromosome of the host cell as achieved by retroviral vectors.

Vectors useful according to the invention preferably comprise sequences operably linked to the differentially expressed sequences that permit the transcription and translation of the sequence. Sequences that permit the transcription of the linked differentially expressed sequence

include a promoter and optionally also include an enhancer element or elements permitting the strong expression of the linked sequences. The term “transcriptional regulatory sequences” refers to the combination of a promoter and any additional sequences conferring desired expression characteristics (e.g., high level expression, inducible expression, tissue- or cell-type-specific expression) on an operably linked nucleic acid sequence.

The selected promoter may be any DNA sequence that exhibits transcriptional activity in the selected host cell, and may be derived from a gene normally expressed in the host cell or from a gene normally expressed in other cells or organisms. Examples of promoters include, but are not limited to the following: A) prokaryotic promoters - *E. coli* lac, tac, or trp promoters, lambda phage P_R or P_L promoters, bacteriophage T7, T3, Sp6 promoters, *B. subtilis* alkaline protease promoter, and the *B. stearothermophilus* maltogenic amylase promoter, etc.; B) eukaryotic promoters - yeast promoters, such as GAL1, GAL4 and other glycolytic gene promoters (see for example, Hitzeman et al., 1980, J. Biol. Chem. 255: 12073-12080; Alber & Kawasaki, 1982, J. Mol. Appl. Gen. 1: 419-434), LEU2 promoter (Martinez-Garcia et al., 1989, Mol Gen Genet. 217: 464-470), alcohol dehydrogenase gene promoters (Young et al., 1982, in Genetic Engineering of Microorganisms for Chemicals, Hollaender et al., eds., Plenum Press, NY), or the TPI1 promoter (U.S. Pat. No. 4,599,311); insect promoters, such as the polyhedrin promoter (U.S. Pat. No. 4,745,051; Vasuvedan et al., 1992, FEBS Lett. 311: 7-11), the P10 promoter (Vlak et al., 1988, J. Gen. Virol. 69: 765-776), the *Autographa californica* polyhedrosis virus basic protein promoter (EP 397485), the baculovirus immediate-early gene promoter gene 1 promoter (U.S. Pat. Nos. 5,155,037 and 5,162,222), the baculovirus 39K delayed-early gene promoter (also U.S. Pat. Nos. 5,155,037 and 5,162,222) and the OpMNPV immediate early promoter 2; mammalian promoters - the SV40 promoter (Subramani et al., 1981, Mol. Cell. Biol. 1: 854-864), metallothionein promoter (MT-1; Palmiter et al., 1983, Science 222: 809-814), adenovirus 2 major late promoter (Yu et al., 1984, Nucl. Acids Res. 12: 9309-21), cytomegalovirus (CMV) or other viral promoter (Tong et al., 1998, Anticancer Res. 18: 719-725), or even the endogenous promoter of a gene of interest in a particular cell type.

A selected promoter may also be linked to sequences rendering it inducible or tissue-specific. For example, the addition of a tissue-specific enhancer element upstream of a selected promoter may render the promoter more active in a given tissue or cell type. Alternatively, or in

addition, inducible expression may be achieved by linking the promoter to any of a number of sequence elements permitting induction by, for example, thermal changes (temperature sensitive), chemical treatment (for example, metal ion- or IPTG-inducible), or the addition of an antibiotic inducing agent (for example, tetracycline).

5 Regulatable expression is achieved using, for example, expression systems that are drug inducible (e.g., tetracycline, rapamycin or hormone-inducible). Drug-regulatable promoters that are particularly well suited for use in mammalian cells include the tetracycline regulatable promoters, and glucocorticoid steroid-, sex hormone steroid-, ecdysone-, lipopolysaccharide (LPS)- and isopropylthiogalactoside (IPTG)-regulatable promoters. A regulatable expression
10 system for use in mammalian cells should ideally, but not necessarily, involve a transcriptional regulator that binds (or fails to bind) nonmammalian DNA motifs in response to a regulatory agent, and a regulatory sequence that is responsive only to this transcriptional regulator.

 Tissue-specific promoters may also be used to advantage in differentially expressed sequence-encoding constructs of the invention. A wide variety of tissue-specific promoters is
15 known. As used herein, the term “tissue-specific” means that a given promoter is transcriptionally active (i.e., directs the expression of linked sequences sufficient to permit detection of the polypeptide product of the promoter) in less than all cells or tissues of an organism. A tissue specific promoter is preferably active in only one cell type, but may, for example, be active in a particular class or lineage of cell types (e.g., hematopoietic cells). A
20 tissue specific promoter useful according to the invention comprises those sequences necessary and sufficient for the expression of an operably linked nucleic acid sequence in a manner or pattern that is essentially the same as the manner or pattern of expression of the gene linked to that promoter in nature. The following is a non-exclusive list of tissue specific promoters and literature references containing the necessary sequences to achieve expression characteristic of
25 those promoters in their respective tissues; the entire content of each of these literature references is incorporated herein by reference. Examples of tissue specific promoters useful in the present invention are as follows:

 Bowman et al., 1995 Proc. Natl. Acad. Sci. USA 92,12115-12119 describe a brain-specific transferrin promoter; the synapsin I promoter is neuron specific (Schoch et al., 1996 J.

Biol. Chem. 271, 3317-3323); the nestin promoter is post-mitotic neuron specific (Uetsuki et al., 1996 J. Biol. Chem. 271, 918-924); the neurofilament light promoter is neuron specific (Charron et al., 1995 J. Biol. Chem. 270, 30604-30610); the acetylcholine receptor promoter is neuron specific (Wood et al., 1995 J. Biol. Chem. 270, 30933-30940); and the potassium channel promoter is high-frequency firing neuron specific (Gan et al., 1996 J. Biol. Chem. 271, 5859-5865). Any tissue specific transcriptional regulatory sequence known in the art may be used to advantage with a vector encoding a differentially expressed nucleic acid sequence obtained from an animal subjected to pain.

In addition to promoter/enhancer elements, vectors useful according to the invention may further comprise a suitable terminator. Such terminators include, for example, the human growth hormone terminator (Palmiter et al., 1983, supra), or, for yeast or fungal hosts, the TPI1 (Alber & Kawasaki, 1982, supra) or ADH3 terminator (McKnight et al., 1985, EMBO J. 4: 2093-2099).

Vectors useful according to the invention may also comprise polyadenylation sequences (e.g., the SV40 or Ad5E1b poly(A) sequence), and translational enhancer sequences (e.g., those from Adenovirus VA RNAs). Further, a vector useful according to the invention may encode a signal sequence directing the recombinant polypeptide to a particular cellular compartment or, alternatively, may encode a signal directing secretion of the recombinant polypeptide.

a. Plasmid vectors.

Any plasmid vector that allows expression of a differentially expressed coding sequence of the invention in a selected host cell type is acceptable for use according to the invention. A plasmid vector useful in the invention may have any or all of the above-noted characteristics of vectors useful according to the invention. Plasmid vectors useful according to the invention include, but are not limited to the following examples: Bacterial - pQE70, pQE60, pQE-9 (Qiagen) pBs, phagescript, psiX174, pBluescript SK, pBsKS, pNH8a, pNH16a, pNH18a, pNH46a (Stratagene); pTrc99A, pKK223-3, pKK233-3, pDR540, and pRIT5 (Pharmacia); Eukaryotic - pWLneo, pSV2cat, pOG44, pXT1, pSG (Stratagene) pSVK3, pBPV, pMSG, and pSVL (Pharmacia). However, any other plasmid or vector may be used as long as it is replicable and viable in the host.

b. Bacteriophage vectors.

There are a number of well known bacteriophage-derived vectors useful according to the invention. Foremost among these are the lambda-based vectors, such as Lambda Zap II or Lambda-Zap Express vectors (Stratagene) that allow inducible expression of the polypeptide encoded by the insert. Others include filamentous bacteriophage such as the M13-based family of vectors.

c. Viral vectors.

A number of different viral vectors are useful according to the invention, and any viral vector that permits the introduction and expression of one or more of the differentially expressed polynucleotides of the invention in cells is acceptable for use in the methods of the invention. Viral vectors that can be used to deliver foreign nucleic acid into cells include but are not limited to retroviral vectors, adenoviral vectors, adeno-associated viral vectors, herpesviral vectors, and Semliki forest viral (alphaviral) vectors. Defective retroviruses are well characterized for use in gene transfer (for a review see Miller, A.D. (1990) *Blood* 76:271). Protocols for producing recombinant retroviruses and for infecting cells *in vitro* or *in vivo* with such viruses can be found in Current Protocols in Molecular Biology, Ausubel, F.M. et al. (eds.) Greene Publishing Associates, (1989), Sections 9.10-9.14, and other standard laboratory manuals.

In addition to retroviral vectors, Adenovirus can be manipulated such that it encodes and expresses a gene product of interest but is inactivated in terms of its ability to replicate in a normal lytic viral life cycle (see for example Berkner et al., 1988, *BioTechniques* 6:616; Rosenfeld et al., 1991, *Science* 252:431-434; and Rosenfeld et al., 1992, *Cell* 68:143-155). Suitable adenoviral vectors derived from the adenovirus strain Ad type 5 dl324 or other strains of adenovirus (e.g., Ad2, Ad3, Ad7 etc.) are well known to those skilled in the art. Adeno-associated virus (AAV) is a naturally occurring defective virus that requires another virus, such as an adenovirus or a herpes virus, as a helper virus for efficient replication and a productive life cycle. (For a review see Muzyczka et al., 1992, *Curr. Topics in Micro. and Immunol.* 158:97-129). An AAV vector such as that described in Traschin et al. (1985, *Mol. Cell. Biol.* 5:3251-3260) can be used to introduce nucleic acid into cells. A variety of nucleic acids have been introduced into different cell types using AAV vectors (see, for example,

Hermonat et al., 1984, Proc. Natl. Acad. Sci. USA 81: 6466-6470; and Traschin et al., 1985, Mol. Cell. Biol. 4: 2072-2081).

Host cells

Any cell into which a recombinant vector carrying a gene encoding a nucleic acid
5 sequence differentially expressed in an animal subjected to pain may be introduced and wherein
the vector is permitted to drive the expression of the peptide encoded by the differentially
expressed sequence is useful according to the invention. Any cell in which a differentially
expressed molecule of the invention may be expressed and preferably detected is a suitable host,
wherein the host cell is preferably a mammalian cell and more preferably a human cell. Vectors
10 suitable for the introduction of differentially expressed nucleic acid sequences to host cells from
a variety of different organisms, both prokaryotic and eukaryotic, are described herein above or
known to those skilled in the art.

Host cells may be prokaryotic, such as any of a number of bacterial strains, or may be
eukaryotic, such as yeast or other fungal cells, insect or amphibian cells, or mammalian cells
15 including, for example, rodent, simian or human cells. Cells may be primary cultured cells, for
example, primary human fibroblasts or keratinocytes, or may be an established cell line, such as
NIH3T3, 293T or CHO cells. Further, mammalian cells useful in the present invention may be
phenotypically normal or oncogenically transformed. It is assumed that one skilled in the art can
readily establish and maintain a chosen host cell type in culture.

Introduction of vectors to host cells.

Vectors useful in the present invention may be introduced to selected host cells by any of
a number of suitable methods known to those skilled in the art. For example, vector constructs
may be introduced to appropriate bacterial cells by infection, in the case of E. coli bacteriophage
vector particles such as lambda or M13, or by any of a number of transformation methods for
25 plasmid vectors or for bacteriophage DNA. For example, standard calcium-chloride-mediated
bacterial transformation is still commonly used to introduce naked DNA to bacteria (Sambrook
et al., 1989, Molecular Cloning, A Laboratory Manual, Cold Spring Harbor Laboratory Press,

Cold Spring Harbor, NY), but electroporation may also be used (Ausubel et al., 1988, Current Protocols in Molecular Biology, (John Wiley & Sons, Inc., NY, NY)).

For the introduction of vector constructs to yeast or other fungal cells, chemical transformation methods are generally used (e.g. as described by Rose et al., 1990, Methods in Yeast Genetics, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY). For transformation of *S. cerevisiae*, for example, the cells are treated with lithium acetate to achieve transformation efficiencies of approximately 10^4 colony-forming units (transformed cells)/ μg of DNA. Transformed cells are then isolated on selective media appropriate to the selectable marker used. Alternatively, or in addition, plates or filters lifted from plates may be scanned for GFP fluorescence to identify transformed clones.

For the introduction of vectors comprising differentially expressed sequences to mammalian cells, the method used will depend upon the form of the vector. Plasmid vectors may be introduced by any of a number of transfection methods, including, for example, lipid-mediated transfection ("lipofection"), DEAE-dextran-mediated transfection, electroporation or calcium phosphate precipitation. These methods are detailed, for example, in Current Protocols in Molecular Biology (Ausubel et al., 1988, John Wiley & Sons, Inc., NY, NY).

Lipofection reagents and methods suitable for transient transfection of a wide variety of transformed and non-transformed or primary cells are widely available, making lipofection an attractive method of introducing constructs to eukaryotic, and particularly mammalian cells in culture. For example, LipofectAMINETM (Life Technologies) or LipoTaxiTM (Stratagene) kits are available. Other companies offering reagents and methods for lipofection include Bio-Rad Laboratories, CLONTECH, Glen Research, InVitrogen, JBL Scientific, MBI Fermentas, PanVera, Promega, Quantum Biotechnologies, Sigma-Aldrich, and Wako Chemicals USA.

Following transfection with a vector of the invention, eukaryotic (e.g., human) cells successfully incorporating the construct (intra- or extrachromosomally) may be selected, as noted above, by either treatment of the transfected population with a selection agent, such as an antibiotic whose resistance gene is encoded by the vector, or by direct screening using, for example, FACS of the cell population or fluorescence scanning of adherent cultures. Frequently, both types of screening may be used, wherein a negative selection is used to enrich for cells

taking up the construct and FACS or fluorescence scanning is used to further enrich for cells expressing differentially expressed polynucleotides or to identify specific clones of cells, respectively. For example, a negative selection with the neomycin analog G418 (Life Technologies, Inc.) may be used to identify cells that have received the vector, and fluorescence scanning may be used to identify those cells or clones of cells that express the vector construct to the greatest extent.

Polynucleotide arrays comprising differentially expressed nucleic acid sequences

In one embodiment, the present invention provides a pain-specific polynucleotide array comprising nucleic acid sequences that are identified as being differentially expressed in an animal subjected to pain relative to a naïve animal stably associated at discrete predefined regions on a surface. In a preferred embodiment, a pain-specific microarray useful in the present invention comprises one or more polynucleotides shown in Tables 1, 2, 3, 4, or 5. At least one of the polynucleotides comprising a pain-specific array useful in the present invention must be selected from Table 2, 3, 4, or 5. A pain-specific microarray according to the invention preferably comprises between 10 and 20,000 nucleic acid members, and more preferably comprises at least 5000 nucleic acid members. The nucleic acid members are known or novel polynucleotide sequences which have been determined to be differentially expressed as described herein, or any combination thereof. A pain-specific microarray according to the invention may be used, for example, to test therapeutic compounds which may modulate the expression of the sequences comprising the array in an animal subjected to pain. For example, an animal subjected to pain may be treated with a potentially therapeutic compound as described below. Total RNA may then be extracted from, for example, primary sensory neurons, prepared according to the methods described above, and hybridized to the pain-specific microarray. The level of hybridization of samples to the pain-specific microarray may be compared to the level of hybridization of a nucleic acid sample obtained from an animal subjected to pain, but not administered the therapeutic compound. The pain-specific microarray may also be used, for example, to test the ability of an antisense nucleic acid to hybridize to the differentially expressed nucleic acid molecules comprising the pain-specific microarray. The antisense molecules may then be used to inhibit the expression of, for example, nucleic acid sequences

which have been identified, using the above methods, as being upregulated (i.e., by at least 1.4 fold) in an animal subjected to pain.

The invention also provides for a pain-specific microarray comprising nucleic acids sequences which have been identified and verified as being differentially expressed in an animal subjected to pain, wherein the sequences stably associated with the array are obtained from at least two different species of animal. In a preferred embodiment, a pain-specific microarray useful in the present invention comprises at least one polynucleotide shown in Table 2, 3, 4, or 5, and may optionally further comprise one or more of the polynucleotides shown in Table 1. Such arrays may also be used for prognostic methods to monitor an animal's response to therapy. In one embodiment, the above pain-specific microarrays are used to identify a therapeutic agent that changes (e.g., increases or decreases) the level of expression of at least one polynucleotide sequence that is differentially expressed (i.e., by at least 1.4 fold, or at least 1.2 fold in combination with a p-value of less than 0.05 in triplicate analysis) in sensory neurons in an animal subjected to pain.

The nucleic acid samples that are hybridized to and analyzed with a pain-specific microarray of the invention are preferably derived from sensory neurons of an animal subjected to pain (or from a naïve control animal). More preferably, the nucleic acid samples are obtained from primary sensory neurons of the dorsal root ganglion. A limitation for this procedure lies in the amount of RNA available for use as a probe nucleic acid sample. Preferably, at least 1 microgram of total RNA is obtained for use according to this invention.

Construction of a pain-specific microarray

An aspect of the present invention incorporates the previously identified differentially regulated nucleic acid sequences into a pain-specific polynucleotide microarray. In the present methods, an array of nucleic acid members stably associated with the surface of a substantially planar solid support is contacted with a sample comprising probe polynucleotides obtained from an animal subjected to pain, or from a naïve animal under hybridization conditions sufficient to produce a hybridization pattern of complementary nucleic acid members/probe complexes.

The nucleic acid members may be produced using established techniques such as polymerase chain reaction (PCR) and reverse transcription (RT). For example, once a nucleic acid sequence has been identified as being differentially expressed in an animal subjected to pain, the sequence may be amplified from the originally obtained RNA sample by RT-PCR, wherein the amplified product may be used to construct a pain-specific microarray. These methods are similar to those currently known in the art (see e.g. PCR Strategies, Michael A. Innis (Editor), et al. (1995) and PCR: Introduction to Biotechniques Series, C. R. Newton, A. Graham (1997)). Amplified polynucleotides are purified by methods well known in the art (e.g., column purification or alcohol precipitation). A polynucleotide is considered pure when it has been isolated so as to be substantially free of primers and incomplete products produced during the synthesis of the desired polynucleotide. Preferably, a purified polynucleotide will also be substantially free of contaminants which may hinder or otherwise mask the binding activity of the molecule.

A pain-specific microarray according to the invention comprises a plurality of unique polynucleotides attached to one surface of a solid support at a density exceeding 20 different polynucleotides/cm², wherein each of the polynucleotides is attached to the surface of the solid support in a non-identical preselected region. Each associated sample on the array comprises a polynucleotide composition, of known identity, usually of known sequence, as described in greater detail below. Any conceivable substrate may be employed in the invention. In one embodiment, the polynucleotide attached to the surface of the solid support is DNA. In a preferred embodiment, the polynucleotide attached to the surface of the solid support is cDNA or RNA. In another preferred embodiment, the polynucleotide attached to the surface of the solid support is cDNA synthesized by polymerase chain reaction (PCR). Preferably, a nucleic acid member comprising an array, according to the invention, is at least 25 nucleotides in length. In one embodiment, a nucleic acid member comprising an array is at least 150 nucleotides in length. Preferably, a nucleic acid member comprising an array is less than 1000 nucleotides in length. More preferably, a nucleic acid member comprising an array is less than 500 nucleotides in length. In one embodiment, an array comprises at least 10 different polynucleotides attached to one surface of the solid support. In another embodiment, the array comprises at least 100 different polynucleotides attached to one surface of the solid support. In yet another

embodiment, the array comprises at least 10000 different polynucleotides attached to one surface of the solid support.

In the arrays of the invention, the polynucleotide compositions are stably associated with the surface of a solid support, wherein the support may be a flexible or rigid solid support. By "stably associated" is meant that each nucleic acid member maintains a unique position relative to the solid support under hybridization and washing conditions. As such, the samples are non-covalently or covalently stably associated with the support surface. Examples of non-covalent association include non-specific adsorption, binding based on electrostatic interactions (e.g., ion pair interactions), hydrophobic interactions, hydrogen bonding interactions, specific binding through a specific binding pair member covalently attached to the support surface, and the like. Examples of covalent binding include covalent bonds formed between the polynucleotides and a functional group present on the surface of the rigid support (e.g., --OH), where the functional group may be naturally occurring or present as a member of an introduced linking group, as described in greater detail below

The amount of differentially expressed polynucleotide present in each composition will be sufficient to provide for adequate hybridization and detection of probe polynucleotide sequences during the assay in which the array is employed. Generally, the amount of each nucleic acid member stably associated with the solid support of the array is at least about 0.1 ng, preferably at least about 0.5 ng and more preferably at least about 1 ng, where the amount may be as high as 1000 ng or higher, but will usually not exceed about 20 ng. Where the nucleic acid member is "spotted" onto the solid support in a spot comprising an overall circular dimension, the diameter of the "spot" will generally range from about 10 to 5,000 μm , usually from about 20 to 2,000 μm and more usually from about 50 to 1000 μm .

Control nucleic acid members may be present on the array including nucleic acid members comprising oligonucleotides or polynucleotides corresponding to genomic DNA, housekeeping genes, vector sequence, plant nucleic acid sequence, negative and positive control genes, and the like. Control nucleic acid members are calibrating or control genes whose function is not to tell whether a particular "key" gene of interest is expressed, but rather to provide other useful information, such as background or basal level of expression.

Other control polynucleotides are spotted on the array and used as probe expression control polynucleotides and mismatch control nucleotides to monitor non-specific binding or cross-hybridization to a polynucleotide in the sample other than the target to which the probe is directed. Mismatch probes thus indicate whether a hybridization is specific or not. For example, if the target is present, the perfectly matched probes should be consistently brighter than the mismatched probes.

Solid substrate

An array according to the invention comprises either a flexible or rigid substrate. A flexible substrate is capable of being bent, folded or similarly manipulated without breakage.

Examples of solid materials which are flexible solid supports with respect to the present invention include membranes, e.g., nylon, flexible plastic films, and the like. By "rigid" is meant that the support is solid and does not readily bend, i.e., the support is not flexible. As such, the rigid substrates of the subject arrays are sufficient to provide physical support and structure to the associated polynucleotides present thereon under the assay conditions in which the array is employed, particularly under high throughput handling conditions.

The substrate may be biological, non-biological, organic, inorganic, or a combination of any of these, existing as particles, strands, precipitates, gels, sheets, tubing, spheres, containers, capillaries, pads, slices, films, plates, slides, etc. The substrate may have any convenient shape, such as a disc, square, sphere, circle, etc. The substrate is preferably flat or planar but may take on a variety of alternative surface configurations. The substrate may be a polymerized Langmuir Blodgett film, functionalized glass, Si, Ge, GaAs, GaP, SiO₂, SiN₄, modified silicon, or any one of a wide variety of gels or polymers such as (poly)tetrafluoroethylene, (poly)vinylidenedifluoride, polystyrene, polycarbonate, or combinations thereof. Other substrate materials will be readily apparent to those of skill in the art upon review of this disclosure.

In a preferred embodiment the substrate is flat glass or single-crystal silicon. According to some embodiments, the surface of the substrate is etched using well known techniques to provide for desired surface features. For example, by way of the formation of trenches, v-grooves, mesa structures, or the like, the synthesis regions may be more closely placed within the

focus point of impinging light, be provided with reflective "mirror" structures for maximization of light collection from fluorescent sources, etc.

Surfaces on the solid substrate will usually, though not always, be composed of the same material as the substrate. Alternatively, the surface may be composed of any of a wide variety of materials, for example, polymers, plastics, resins, polysaccharides, silica or silica-based materials, carbon, metals, inorganic glasses, membranes, or any of the above-listed substrate materials. In some embodiments the surface may provide for the use of caged binding members which are attached firmly to the surface of the substrate. Preferably, the surface will contain reactive groups, which are carboxyl, amino, hydroxyl, or the like. Most preferably, the surface will be optically transparent and will have surface Si--OH functionalities, such as are found on silica surfaces.

The surface of the substrate is preferably provided with a layer of linker molecules, although it will be understood that the linker molecules are not required elements of the invention. The linker molecules are preferably of sufficient length to permit polynucleotides of the invention and on a substrate to hybridize to other polynucleotide molecules and to interact freely with molecules exposed to the substrate.

Often, the substrate is a silicon or glass surface, (poly)tetrafluoroethylene, (poly)vinylidendifluoride, polystyrene, polycarbonate, a charged membrane, such as nylon 66 or nitrocellulose, or combinations thereof. In a preferred embodiment, the solid support is glass. Preferably, at least one surface of the substrate will be substantially flat. Preferably, the surface of the solid support will contain reactive groups, including, but not limited to, carboxyl, amino, hydroxyl, thiol, or the like. In one embodiment, the surface is optically transparent. In a preferred embodiment, the substrate is a poly-lysine coated slide or Gamma amino propyl silane-coated Corning Microarray Technology-GAPS.

Any solid support to which a nucleic acid member may be attached may be used in the invention. Examples of suitable solid support materials include, but are not limited to, silicates such as glass and silica gel, cellulose and nitrocellulose papers, nylon, polystyrene, polymethacrylate, latex, rubber, and fluorocarbon resins such as TEFLON™.

The solid support material may be used in a wide variety of shapes including, but not limited to slides and beads. Slides provide several functional advantages and thus are a preferred form of solid support. Due to their flat surface, probe and hybridization reagents are minimized using glass slides. Slides also enable the targeted application of reagents, are easy to keep at a constant temperature, are easy to wash and facilitate the direct visualization of RNA and/or DNA immobilized on the solid support. Removal of RNA and/or DNA immobilized on the solid support is also facilitated using slides.

The particular material selected as the solid support is not essential to the invention, as long as it provides the described function. Normally, those who make or use the invention will select the best commercially available material based upon the economics of cost and availability, the expected application requirements of the final product, and the demands of the overall manufacturing process.

Spotting method

The invention provides for arrays wherein each nucleic acid member comprising the array is spotted onto a solid support.

Preferably, spotting is carried out as follows. PCR products (~40 ul) of cDNA clones obtained from animals subjected to pain, in the same 96-well tubes used for amplification, are precipitated with 4 ul (1/10 volume) of 3M sodium acetate (pH 5.2) and 100 ul (2.5 volumes) of ethanol and stored overnight at -20°C. They are then centrifuged at 3,300 rpm at 4°C for 1 hour. The obtained pellets are washed with 50 ul ice-cold 70% ethanol and centrifuged again for 30 minutes. The pellets are then air-dried and resuspended well in 20ul 3X SSC overnight. The samples are then spotted, either singly or in duplicate, onto polylysine-coated slides (Sigma Cat. No. P0425) using a robotic GMS 417 arrayer (Affymetrix, CA).

The boundaries of the spots on the microarray are marked with a diamond scribe (note that the spots become invisible after post-processing). The arrays are rehydrated by suspending the slides over a dish of warm particle free ddH₂O for approximately one minute (the spots will swell slightly but will not run into each other) and snap-dried on a 70-80°C inverted heating block for 3 seconds. Nucleic acid is then UV crosslinked to the slide (Stratagene, Stratalinker,

65 mJ – set display to “650” which is 650 x 100 uJ). The arrays are placed in a slide rack. An empty slide chamber is prepared and filled with the following solution: 3.0 grams of succinic anhydride (Aldrich) was dissolved in 189 ml of 1-methyl-2-pyrrolidinone (rapid addition of reagent is crucial); immediately after the last flake of succinic anhydride is dissolved, 21.0 ml of 0.2 M sodium borate is mixed in and the solution is poured into the slide chamber. The slide rack is plunged rapidly and evenly in the slide chamber and vigorously shaken up and down for a few seconds, making sure the slides never leave the solution, and then mixed on an orbital shaker for 15-20 minutes. The slide rack is then gently plunged in 95°C ddH₂O for 2 minutes, followed by plunging five times in 95% ethanol. The slides are then air dried by allowing excess ethanol to drip onto paper towels. The arrays are then stored in the slide box at room temperature until use.

Numerous methods may be used for attachment of the nucleic acid members of the invention to the substrate (a process referred as spotting). For example, polynucleotides are attached using the techniques of, for example U.S. Pat. No. 5,807,522, which is incorporated herein by reference for teaching methods of polymer attachment.

Alternatively, spotting may be carried out using contact printing technology.

Kits

The invention provides for kits for performing expression assays using the pain-specific arrays of the present invention. Such kits according to the present invention will at least comprise the pain-specific arrays of the invention having associated differentially expressed nucleic acid members and packaging means therefore. The kits may further comprise one or more additional reagents employed in the various methods, such as: 1) primers for generating test polynucleotides; 2) dNTPs and/or rNTPs (either premixed or separate), optionally with one or more uniquely labeled dNTPs and/or rNTPs (e.g., biotinylated or Cy3 or Cy5 tagged dNTPs); 3) post synthesis labeling reagents, such as chemically active derivatives of fluorescent dyes; 4) enzymes, such as reverse transcriptases, DNA polymerases, and the like; 5) various buffer mediums, e.g., hybridization and washing buffers; 6) labeled probe purification reagents and components, like spin columns, etc.; and 7) signal generation and detection reagents, e.g.,

streptavidin-alkaline phosphatase conjugate, chemifluorescent or chemiluminescent substrate, and the like.

Therapeutic agents and Screening Methods

5 The present invention provides a number of potentially therapeutic compounds which may be used to modulate the expression of genes which are differentially expressed in an animal subjected to pain, or which may be used to modulate the activity of a protein encoded by a differentially expressed polynucleotide sequence of the invention, or which may be used to modulate pain in an animal. Such therapeutic agents include, but are not limited to a chemical compound, a protein, an antibody, RNAi, and an antisense nucleic acid. In a further aspect, the
10 invention provides a method for screening potentially therapeutic agents for the ability to modulate the expression of genes which are differentially expressed in an animal subjected to pain, and further provides pharmaceutical formulations comprising the therapeutic agents. In a still further embodiment, the present invention provides a method of screening potentially therapeutic agents for the ability to modulate the activity of one or more polypeptides encoded
15 by one or more of the polynucleotide sequences indicated in Tables 1, 2, 3, 4, or 5, or Tables 10 and/or 11.

Therapeutic Agents

A therapeutic agent, useful in the present invention, changes (e.g., increases or decreases) the level of expression of at least one polynucleotide sequence that is differentially expressed in
20 an animal subjected to pain. Preferably, a therapeutic agent causes a change in the level of expression of a polynucleotide sequence, that is, to increase or decrease the expression of a polynucleotide sequence that is differentially expressed in an animal subjected to pain, wherein the change results in the differentially expressed sequence being no longer differentially expressed by at least 1.4 fold (or differentially expressed by 1.2 fold in combination with a
25 statistical significance of $p < 0.05$ in at least three replicate assays) relative to the expression of the same sequence in a naïve animal.

In another embodiment, a therapeutic agent according to the invention can modulate the activity of one or more of the polypeptides specifically indicated in Tables 1, 2, 3, 4, or 5, or encoded by one or more of the polynucleotide sequences of Tables 1, 2, 3, 4, or 5.

In another embodiment, a therapeutic agent according to the invention can ameliorate at least one of the symptoms and/or physiological changes associated with pain including, but not limited to mechanical allodynia and hyperalgesia, and temperature allodynia and hyperalgesia.

The candidate therapeutic agent may be a synthetic compound, or a mixture of compounds, or may be a natural product (*e.g.* a plant extract or culture supernatant). According to the invention, a therapeutic agent or compound can be a candidate or test compound.

Similarly, according to the invention, a candidate or test compound can be a therapeutic agent.

Suitable test compounds for use in the screening assays of the invention can be obtained from any suitable source, *e.g.*, conventional compound libraries. The test compounds can also be obtained using any of the numerous approaches in combinatorial library methods known in the art, including: biological libraries; spatially addressable parallel solid phase or solution phase libraries; synthetic library methods requiring deconvolution; the “one-bead one-compound” library method; and synthetic library methods using affinity chromatography selection. The biological library approach is limited to peptide libraries, while the other four approaches are applicable to peptide, non-peptide oligomer or small molecule libraries of compounds [Lam, (1997)]. Examples of methods for the synthesis of molecular libraries can be found in the art. Libraries of compounds may be presented in solution or on beads, bacteria, spores, plasmids or phage.

Candidate therapeutic agents or compounds from large libraries of synthetic or natural compounds may be screened as described below. Numerous means are currently used for random and directed synthesis of saccharide, peptide, and nucleic acid based compounds.

Synthetic compound libraries are commercially available from a number of companies including Maybridge Chemical Co. (Trevillet, Cornwall, UK), Comgenex (Princeton, NJ), Brandon Associates (Merrimack, NH), and Microsource (New Milford, CT). A rare chemical library is available from Aldrich (Milwaukee, WI). Combinatorial libraries are available and are prepared. Alternatively, libraries of natural compounds in the form of bacterial, fungal, plant and animal

extracts are available from e.g., Pan Laboratories (Bothell, WA) or MycoSearch (NC), or are readily produced by methods well known in the art. Additionally, natural and synthetically produced libraries and compounds are readily modified through conventional chemical, physical, and biochemical means.

5 *Small Molecules*

Useful compounds may be found within numerous chemical classes. Useful compounds may be organic compounds, or small organic compounds. Small organic compounds, or “small molecules” have a molecular weight of more than 50 yet less than about 2,500 daltons, preferably less than about 750, more preferably less than about 350 daltons. Exemplary classes
10 include heterocycles, peptides, saccharides, steroids, and the like. Small molecules can be nucleic acids, peptides, polypeptides, peptidomimetics, carbohydrates, lipids or other organic (carbon-containing) or inorganic molecules. The compounds may be modified to enhance efficacy, stability, pharmaceutical compatibility, and the like. Structural identification of an agent may be used to identify, generate, or screen additional agents. For example, where peptide
15 agents are identified, they may be modified in a variety of ways to enhance their stability, such as using an unnatural amino acid, such as a D-amino acid, particularly D-alanine, by functionalizing the amino or carboxylic terminus, e.g. for the amino group, acylation or alkylation, and for the carboxyl group, esterification or amidification, or the like.

Antisense therapy

20 In one embodiment, a therapeutic agent, according to the invention, can be a differentially expressed nucleic acid or a sequence complementary thereto, useful in antisense therapy. The antisense sequence of a polynucleotide which is differentially expressed in an animal subjected to pain may be determined using either the sequence indicated by accession number in tables 4-5, or the sequence of the rat and/or human differentially expressed sequences
25 shown in Table 2-3 as set forth in the corresponding SEQ ID No. As used herein, antisense therapy refers to administration or *in situ* generation of oligonucleotide molecules or their derivatives which specifically hybridize (e.g., bind) under cellular conditions with the cellular mRNA and/or genomic DNA, thereby inhibiting transcription and/or translation of that gene. The binding may be by conventional base pair complementarity, or, for example, in the case of

binding to DNA duplexes, through specific interactions in the major groove of the double helix. In general, antisense therapy refers to the range of techniques generally employed in the art, and includes any therapy which relies on specific binding to oligonucleotide sequences.

5 An antisense construct of the present invention can be delivered, for example, as an expression plasmid which, when transcribed in the cell, produces RNA which is complementary to at least a unique portion of the cellular mRNA identified as being differentially expressed in an animal subjected to pain. The construction and use of expression plasmids is described above and may be adapted by one of skill in the art to include expression plasmids or vectors comprising antisense oligonucleotides. Alternatively, the antisense construct is an
10 oligonucleotide probe which is generated *ex vivo* and which, when introduced into the cell, causes inhibition of expression by hybridizing with the mRNA and/or genomic sequences of a differentially expressed nucleic acid. Such oligonucleotide probes are preferably modified oligonucleotides which are resistant to endogenous nucleases, e.g., exonucleases and/or endonucleases, and are therefore stable *in vivo*. Exemplary nucleic acid molecules for use as
15 antisense oligonucleotides are phosphoramidate, phosphorothioate and methylphosphonate analogs of DNA (see also U.S. Patents 5,176,996; 5,264,564; and 5,256,775). Additionally, general approaches to constructing oligomers useful in antisense therapy have been reviewed, for example, by Van der Krol *et al.* (1988) *BioTechniques* 6:958-976; and Stein *et al.* (1988) *Cancer Res* 48:2659-2668. With respect to antisense DNA, oligodeoxyribonucleotides derived from the
20 translation initiation site, e.g., between the -10 and +10 regions of the nucleotide sequence of interest, are preferred.

Antisense approaches involve the design of oligonucleotides (either DNA or RNA) that are complementary to mRNA (i.e., differentially expressed mRNA). The antisense oligonucleotides will bind to the mRNA transcripts and prevent translation. Absolute
25 complementarity, although preferred, is not required. In the case of double-stranded antisense nucleic acids, a single strand of the duplex DNA may thus be tested, or triplex formation may be assayed. The ability to hybridize will depend on both the degree of complementarity and the length of the antisense nucleic acid. Generally, the longer the hybridizing nucleic acid, the more base mismatches with an RNA it may contain and still form a stable duplex (or triplex, as the

case may be). One skilled in the art can ascertain a tolerable degree of mismatch by use of standard procedures to determine the melting point of the hybridized complex.

Oligonucleotides that are complementary to the 5' end of the differentially expressed mRNA, e.g., the 5' untranslated sequence up to and including the AUG initiation codon, should work most efficiently at inhibiting translation. However, sequences complementary to the 3' untranslated sequences of mRNAs have recently been shown to be effective at inhibiting translation of mRNAs as well. (Wagner, R. 1994. Nature 372:333). Therefore, oligonucleotides complementary to either the 5' or 3' untranslated, non-coding regions of a gene could be used in an antisense approach to inhibit translation of endogenous mRNA. Oligonucleotides complementary to the 5' untranslated region of the mRNA should include the complement of the AUG start codon. Antisense oligonucleotides complementary to mRNA coding regions are typically less efficient inhibitors of translation but could also be used in accordance with the invention. Whether designed to hybridize to the 5', 3', or coding region of subject mRNA, antisense nucleic acids should be at least six nucleotides in length, and are preferably less than about 100 and more preferably less than about 50, 25, 17 or 10 nucleotides in length.

The oligonucleotides can be DNA or RNA or chimeric mixtures or derivatives or modified versions thereof, single-stranded or double-stranded. The oligonucleotide can be modified at the base moiety, sugar moiety, or phosphate backbone, for example, to improve stability of the molecule, hybridization, etc. The oligonucleotide may include other appended groups such as peptides (e.g., for targeting host cell receptors), or agents facilitating transport across the cell membrane (see, e.g., Letsinger *et al.*, 1989, Proc. Natl. Acad. Sci. U.S.A. 86:6553-6556; Lemaitre *et al.*, 1987, Proc. Natl. Acad. Sci. 84:648-652; PCT Publication No. WO 88/098 10, published December 15, 1988) or the blood-brain barrier (see, e.g., PCT Publication No. WO 89/10 134, published April 25, 1988), hybridization-triggered cleavage agents (See, e.g., Krol *et al.*, 1988, BioTechniques 6:958-976), or intercalating agents (See, e.g., Zon, 1988, Pharm. Res. 5:539-549). To this end, the oligonucleotide may be conjugated to another molecule, e.g., a peptide, hybridization triggered cross-linking agent, transport agent, hybridization-triggered cleavage agent, etc.

The antisense oligonucleotide may comprise at least one modified base moiety which is selected from the group including but not limited to 5-fluorouracil, 5-bromouracil, 5-chlorouracil, 5-iodouracil, hypoxanthine, xantine, 4-acetylcytosine, 5-(carboxyhydroxytriethyl)uracil, 5-carboxymethylaminomethyl-2-thiouridine, 5-carboxymethylaminomethyluracil, 5 dihydrouracil, beta-D-galactosylqueosine, inosine, N6-isopentenyladenine, 1-methylguanine, 1-methylinosine, 2,2-dimethylguanine, 2-methyladenine, 2-methylguanine, 3-methylcytosine, 5-methylcytosine, N6-adenine, 7-methylguanine, 5-methylaminomethyluracil, 5-methoxyaminomethyl-2-thiouracil, beta-D-mannosylqueosine, 5-methoxycarboxymethyluracil, 5-methoxyuracil, 2-methylthio-N6-isopentenyladenine, uracil-5-oxyacetic acid (v), 10 wybutoxosine, pseudouracil, queosine, 2-thiocytosine, 5-methyl-2-thiouracil, 2-thiouracil, 4-thiouracil, 5-methyluracil, uracil-5-oxyacetic acid methylester, uracil-5-oxyacetic acid (v), 5-methyl-2-thiouracil, 3-(3-amino-3-N-2-carboxypropyl) uracil, (acp3)w, and 2,6-diaminopurine.

The antisense oligonucleotide may also comprise at least one modified sugar moiety selected from the group including but not limited to arabinose, 2-fluoroarabinose, xylulose, and 15 hexose.

The antisense oligonucleotide can also contain a neutral peptide-like backbone. Such molecules are termed peptide nucleic acid (PNA)-oligomers and are described, e.g., in Peny-O'Keefe *et al.* (1996) Proc. Natl. Acad. Sci. U.S.A. 93:14670 and in Eglom *et al.* (1993) Nature 365:566. One advantage of PNA oligomers is their capability to bind to complementary DNA 20 essentially independently from the ionic strength of the medium due to the neutral backbone of the DNA. In yet another embodiment, the antisense oligonucleotide comprises at least one modified phosphate backbone selected from the group consisting of a phosphorothioate, a phosphorodithioate, a phosphoramidothioate, a phosphoramidate, a phosphordiamidate, a methyphosphonate, an alkyl phosphotriester, and a formacetal or analog thereof.

25 In yet a further embodiment, the antisense oligonucleotide is an α -anomeric oligonucleotide. An α -anomeric oligonucleotide forms specific double-stranded hybrids with complementary RNA in which, contrary to the usual n-units, the strands run parallel to each other (Gautier *et al.*, 1987, Nucl. Acids Res. 15:6625-6641). The oligonucleotide is a 2'-O-

methylribonucleotide (Inoue *et al.*, 1987, Nucl. Acids Res. 15:6131-12148), or a chimeric RNA-DNA analogue (Inoue *et al.*, 1987, FEBS Lett. 215:327-330).

Oligonucleotides of the invention may be synthesized by standard methods known in the art, e.g., by use of an automated DNA synthesizer (such as are commercially available from Biosearch, Applied Biosystems, etc.) based on the known sequence of the differentially expressed nucleic acid sequences. As examples, phosphorothioate oligonucleotides may be synthesized by the method of Stein *et al.* (1988, Nucl. Acids Res. 16:3209), methylphosphonate oligonucleotides can be prepared by use of controlled pore glass polymer supports (Sarin *et al.*, 1988, Proc. Natl. Acad. Sci. U.S.A. 85:7448-7451), etc.

While antisense nucleotides complementary to a coding region sequence can be used, those complementary to the transcribed untranslated region and to the region comprising the initiating methionine are most preferred.

The antisense molecules can be delivered to cells which express the target nucleic acid *in vivo*. A number of methods have been developed for delivering antisense DNA or RNA to cells; e.g., antisense molecules can be injected directly into the tissue site, or modified antisense molecules, designed to target the desired cells (e.g., antisense linked to peptides or antibodies that specifically bind receptors or antigens expressed on the target cell surface) can be administered systemically.

However, it is often difficult to achieve intracellular concentrations of the antisense sufficient to suppress translation on endogenous mRNAs. Therefore, a preferred approach utilizes a recombinant DNA construct in which the antisense oligonucleotide is placed under the control of a strong pol III or pol II promoter. The use of such a construct to transfect target cells in an animal will result in the transcription of sufficient amounts of single stranded RNAs that will form complementary base pairs with the endogenous transcripts and thereby prevent translation of the target mRNA. For example, a vector can be introduced *in vivo* such that it is taken up by a cell and directs the transcription of an antisense RNA. Such a vector can remain episomal or become chromosomally integrated, as long as it can be transcribed to produce the desired antisense RNA. Such vectors can be constructed by recombinant DNA technology methods standard in the art, combined with those described above. Vectors can be plasmid,

viral, or others known in the art for replication and expression in mammalian cells. Expression of the sequence encoding the antisense RNA can be by any promoter known in the art to act in animal, preferably mammalian cells. Such promoters can be inducible or constitutive. Such promoters include but are not limited to: the SV40 early promoter region (Bernoist and Chambon, 1981, Nature 290:304-310), the promoter contained in the 3' long terminal repeat of Rous sarcoma virus (Yamamoto *et al.*, 1980, Cell 22:787-797), the herpes thymidine kinase promoter (Wagner *et al.*, 1981, Proc. Natl. Acad. Sci. U.S.A. 78:1441-1445), the regulatory sequences of the metallothionein gene (Brinster *et al.*, 1982, Nature 296:39-42), etc. Any type of plasmid, cosmid, YAC or viral vector can be used to prepare the recombinant DNA construct which can be introduced directly into the tissue site; e.g., the spinal cord, or dorsal root ganglion. Alternatively, viral vectors can be used which selectively infect the desired tissue (e.g., for brain, herpesvirus vectors may be used), in which case administration may be accomplished by another route (e.g., systemically).

Ribozymes

In another aspect of the invention, ribozyme molecules designed to catalytically cleave target mRNA transcripts can be used to prevent translation of target mRNA and expression of a target protein (See, e.g., PCT International Publication WO90/11364, published October 4, 1990; Sarver *et al.*, 1990, Science 247:1222-1225 and U.S. Patent No. 5,093,246). While ribozymes that cleave mRNA at site specific recognition sequences can be used to destroy target mRNAs, the use of hammerhead ribozymes is preferred. Hammerhead ribozymes cleave mRNAs at locations dictated by flanking regions that form complementary base pairs with the target mRNA. The sole requirement is that the target mRNA have the following sequence of two bases: 5'-UG-3'. Ribozymes, useful in the present invention may be designed based on the known sequence of the nucleic acid sequence identified as being differentially expressed in an animal subjected to pain as described above. The construction and production of hammerhead ribozymes is well known in the art and is described more fully in Haseloff and Gerlach, 1988, Nature, 334:585-591. Preferably the ribozyme is engineered so that the cleavage recognition site is located near the 5' end of the target mRNA; i.e., to increase efficiency and minimize the intracellular accumulation of non-functional mRNA transcripts.

The ribozymes of the present invention also include RNA endoribonucleases (hereinafter “Cech-type ribozymes”) such as the one which occurs naturally in *Tetrahymena thermophila* (known as the IVS, or L-19 IVS RNA) and which has been extensively described by Thomas Cech and collaborators (Zaug, et al., 1984, Science, 224:574-578; Zaug and Cech, 1986, Science, 231:470-475; Zaug, et al., 1986, Nature, 324:429-433; published International patent application No. W088/04300 by University Patents Inc.; Been and Cech, 1986, Cell, 47:207-216). The Cech-type ribozymes have an eight base pair active site which hybridizes to a target RNA sequence whereafter cleavage of the target RNA takes place. The invention encompasses those Cech-type ribozymes which target eight base-pair active site sequences that are present in a target gene.

As in the antisense approach, the ribozymes can be composed of modified oligonucleotides (e.g., for improved stability, targeting, etc.) and should be delivered to cells which express the target gene *in vivo*. A preferred method of delivery involves using a DNA construct “encoding” the ribozyme under the control of a strong constitutive pol III or pol II promoter, so that transfected cells will produce sufficient quantities of the ribozyme to destroy endogenous messages and inhibit translation. Because ribozymes, unlike antisense molecules, are catalytic, a lower intracellular concentration is required for efficiency.

Antisense RNA, DNA, and ribozyme molecules of the invention may be prepared by any method known in the art for the synthesis of DNA and RNA molecules. These include techniques for chemically synthesizing oligodeoxyribonucleotides and oligoribonucleotides well known in the art such as for example solid phase phosphoramidite chemical synthesis. The sequences of the antisense and ribozyme molecules will be based on the known sequence of the differentially expressed nucleic acid molecules. Alternatively, RNA molecules may be generated by *in vitro* and *in vivo* transcription of DNA sequences encoding the antisense RNA molecule. Such DNA sequences may be incorporated into a wide variety of vectors which incorporate suitable RNA polymerase promoters such as the T7 or SP6 polymerase promoters. Alternatively, antisense cDNA constructs that synthesize antisense RNA constitutively or inducibly, depending on the promoter used, can be introduced stably into cell lines.

Moreover, various well-known modifications to nucleic acid molecules may be introduced as a means of increasing intracellular stability and half-life. Possible modifications include but are not limited to the addition of flanking sequences of ribonucleotides or deoxyribonucleotides to the 5' and/or 3' ends of the molecule or the use of phosphorothioate or 2' O-methyl rather than phosphodiesterase linkages within the oligodeoxyribonucleotide backbone.

RNAi therapy

In another embodiment, a therapeutic agent according to the invention can be a double stranded RNAi molecule that is specifically targeted to one or more of the polynucleotide sequences which are differentially expressed in an animal subjected to pain relative to an animal that is not subjected to pain (see Tables 1, 2, 3, 4, or 5). As used herein, RNAi or RNA interference refers to the gene-specific, double stranded RNA (dsRNA) mediated, post-transcriptional silencing of gene expression as described in the review by Hannon, G., (2002) Nature 418, 244-250, which is herein incorporated in its entirety. Current experimental evidence indicates that RNAi specific for a target RNA are recognized and processed into 21 and 23 nucleotide small interfering RNAs (siRNAs) by the Dicer RNase III endonuclease. SiRNAs are then incorporated into a RNA induced silencing complex (RISC) which becomes activated by unwinding of the duplex siRNA. Activated RISC complexes then promote RNA degradation and translation inhibition of the target RNA.

In mammals, RNAi therapy, according to the invention, refers to gene-specific suppression that can be achieved by generating siRNA (Elbashir, S. M. et al. (2001) Nature (London) 411, 494-498). *In vitro* synthesized siRNAs can be prepared by any method known in the art for the synthesis of RNA molecules. These include techniques for chemically synthesizing oligoribonucleotides that are well known in the art, for example, solid phase phosphoramidite chemical synthesis. The sequences of the siRNA molecules are based on the known sequence of the differentially expressed nucleic acid molecules. Alternatively, siRNA molecules can be generated by the T7 or SP6 polymerase promoter driven *in vitro* transcription of DNA sequences encoding the siRNA molecule. *In vitro* synthesized siRNAs can be delivered to cells either by direct injection of *in vitro* synthesized siRNAs into the tissue site. Alternatively,

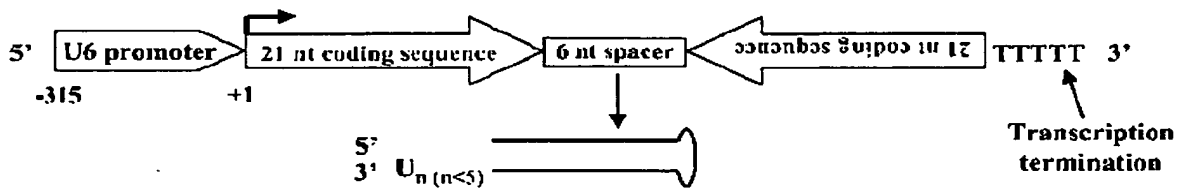
modified siRNAs, designed to target the desired cells (via linkage to peptides or antibodies that specifically bind to cell surface receptors or antigens), can be administered systemically.

In a preferred embodiment, the siRNAs of the invention are delivered to a target cell as an expression plasmid under the control of a RNA polymerase II or III promoter. When transcribed in the cell, siRNA is generated which is complementary to a cellular mRNA identified as being differentially expressed in an animal subjected to pain. The construction and use of expression plasmids is described above and may be adapted by one of skill in the art to include siRNA expression plasmids. Such vectors can be constructed by recombinant DNA technology methods standard in the art, combined with those described above. Vectors can be plasmid, viral, or others known in the art for replication and expression in mammalian cells. Expression of the sequence encoding the siRNA can be by any promoter known in the art to act in an animal, preferably mammalian cells. Such promoters can be inducible or constitutive. Such promoters include but are not limited to: the SV40 early promoter region (Bernoist and Chambon, 1981, Nature 290:304-310), the promoter contained in the 3' long terminal repeat of Rous sarcoma virus (Yamamoto *et al.*, 1980, Cell 22:787-797), the herpes thymidine kinase promoter (Wagner *et al.*, 1981, Proc. Natl. Acad. Sci. U.S.A. 78:1441-1445), the regulatory sequences of the metallothionein gene (Brinster *et al.*, 1982, Nature 296:39-42), etc as well as neural specific promoters, for example the nestin promoter. Any plasmid, cosmid, YAC or viral vector can be used to prepare the recombinant DNA construct which can be introduced directly into the tissue site; e.g., the spinal cord, or dorsal root ganglion. Alternatively, viral vectors can be used which selectively infect the desired tissue (e.g., for brain, herpes virus vectors may be used), in which case administration may be accomplished by another route (e.g., systemically).

In a preferred embodiment, the siRNA expression vectors of the invention are synthesized from a DNA template under the control of an RNA polymerase III (Pol III) promoter in transfected cells or transgenic animals (see below). Pol III directs the synthesis of small, noncoding transcripts whose 3' ends are defined by termination within a stretch of 4–5 thymidines (Ts) (Sui *et al.* PNAS (2002) vol. 99, 5515–5520). Addition of 3' overhangs contributes to the activity of siRNA synthesized *in vitro* (Elbashir, S. M *et al.* (2001) *Genes Dev.* 15, 188–200). Transfection of such a construct into target cells results in the transcription of sufficient amounts of siRNAs to base pair with the endogenous transcripts, promote its

degradation and thereby prevent translation of the target mRNA. The vector can remain episomal or become chromosomally integrated. Alternatively the construct may be incorporated into a viral vector such as herpes virus vectors as described *supra*.

An example of mouse U6 pol III transcribed siRNA expression plasmid is shown below where the 21 nucleotide sequence is specific for one or more of the differentially expressed sequences shown in Tables 1, 2, 3, 4, or 5 (see Sui et al. PNAS (2002) vol. 99, 5515–5520):



Supplemental therapy

The differentially expressed nucleic acid sequences described herein may exhibit either increased or decreased expression. The antisense methods described above are directed primarily at inhibiting the expression of a differentially overexpressed sequence. Alternatively, in the situation where differential expression is manifested in a decrease in sequence expression, the underexpressed sequence may be supplied to the animal in an expression vector as described above. If for example, through the process of identifying and verifying the differential expression of nucleic acid sequences obtained from an animal subjected to pain, a sequence is identified which is expressed at a level at least 1.2 fold less than in a naïve animal in at least three replicate analyses with a significance of $p < 0.05$ (or, alternatively, at least 1.4 fold less), the sequence may be cloned into a suitable expression vector for expression of the sequence in the animal subjected to pain. Either viral or non-viral gene delivery methods may be used to introduce the construct into the animal cells as described above. Briefly, the deficient sequence may be cloned into any expression vector known in the art which is compatible with the animal cell into which it is intended to be introduced, and which is capable of supporting expression of the recombinant sequence. The vector used may be chosen to replicate episomally or may integrate in the cell chromosome, provided that either mode of replication permits the expression of the deficient nucleic acid sequence. Further, any promoter sequence which is sufficient to

direct expression of the recombinant sequence may be used in the vector to direct expression of the sequence. In a preferred embodiment, the promoter is constitutively active in the animal, given that the goal is to attain a level of gene expression sufficient to replace the deficiently expressed sequence. In a further preferred embodiment, the promoter is a neuron-specific promoter. Vectors comprising the deficient sequence may be introduced into cells of the animal subjected to pain using any technique known to those of skill in the art including, but not limited to microinjection and viral delivery.

Similarly, those proteins which are encoded by polynucleotide sequences which are differentially expressed as indicated in Tables 1, 2, 3, 4, or 5, and which are also indicated in the column labeled “subcellular localization” (i.e., in Table 2) as being a secreted protein, may be screened for their ability to modulate the activity of one or more of the proteins indicated in Tables 1, 2, 3, 4, or 5, or screened for their ability to modulate pain in an animal.

Once a therapeutic gene is defined, whether it be an antisense molecule, ribozyme, or supplemental sequence, the gene sequence is subcloned into a vector suitable for the purpose of gene therapy. Murine leukemia virus (MLV)-based retroviral vectors are one of the most widely used gene delivery vehicles in gene therapy clinical trials and have been employed in almost 70% of approved protocols (Ali, M. et al., *Gene Ther.*, 1:367-384, 1994; Marshall, E., *Science*, 269:1050-1055, 1995). Other useful vectors are also known in the art (e.g., Carter and Samulski, 2000, *Int. J. Mol. Med.* 6:17-27; Lever et al., 1999, *Biochem. Soc. Trans.* 27: 841-7). Methods for gene therapy of human diseases are described in U.S. Patent Nos. 6,190,907; 6,187,305; 6,140,087; and 6,129,705.

Screening Assays

Protein Activity Regulators

Regulators as used herein, refer to compounds that affect the activity of a “differentially expressed protein” in vivo and/or in vitro. As used herein, the term “differentially expressed protein (or polypeptide)” will refer to the proteins of Table 1, 2, 3, 4, or 5 that are encoded by sequences that are differentially expressed in pain. Regulators can be agonists and antagonists of a differentially expressed polypeptide and can be compounds that exert their effect on the

differentially expressed protein activity via the enzymatic activity, expression, post-translational modifications or by other means. Agonists of a differentially expressed protein are molecules which, when bound to a differentially expressed protein, increase or prolong the activity of a differentially expressed protein. Agonists of a differentially expressed protein include proteins, nucleic acids, carbohydrates, small molecules, or any other molecule which activate a differentially expressed protein. Antagonists of a differentially expressed protein are molecules which, when bound to a differentially expressed protein, decrease the amount or the duration of the activity of a differentially expressed protein. Antagonists include proteins, nucleic acids, carbohydrates, antibodies, small molecules, or any other molecule which decrease the activity of a “differentially expressed protein”. The activity of a differentially expressed protein, useful in the present invention is indicated in Table 2, 3, 4, or 5 either directly in columns labeled “identifier”, “description” and/or “protein type”, or may be inferred from the information provided in the column labeled “subcellular localization” (Table 2). For example, if a protein is localized to the cell membrane, then one of skill in the art would be able to determine that the activity of such a protein would be that of a receptor, for example, or an ion channel, and screen candidate compounds against this protein activity accordingly.

The term “modulate”, as it appears herein, refers to a change in the activity of a differentially expressed protein. For example, modulation may cause an increase or a decrease in enzymatic activity, binding characteristics, or any other biological, functional, or immunological properties of a differentially expressed protein.

As used herein, the terms “specific binding” or “specifically binding” refer to that interaction between a protein or peptide and an agonist, an antibody, or an antagonist. The interaction is dependent upon the presence of a particular structure of the protein recognized by the binding molecule (i.e., the antigenic determinant or epitope). For example, if an antibody is specific for epitope “A” the presence of a polypeptide containing the epitope A, or the presence of free unlabeled A, in a reaction containing free labeled A and the antibody will reduce the amount of labeled A that binds to the antibody.

The invention provides methods (also referred to herein as “screening assays”) for identifying compounds which can be used for the treatment of pain. The methods entail the

identification of candidate or test compounds or agents (e.g., peptides, peptidomimetics, small molecules or other molecules) which bind to a differentially expressed protein and/or have a stimulatory or inhibitory effect on the biological activity of a differentially expressed protein or its expression and then determining which of these compounds have an effect on pain symptoms in an in vivo assay.

Candidate or test compounds or agents which bind to a differentially expressed protein and/or have a stimulatory or inhibitory effect on the activity or the expression of a differentially expressed protein are identified either in assays that employ cells which express a differentially expressed protein (cell-based assays) or in assays with an isolated differentially expressed protein (cell-free assays). The various assays can employ a variety of variants of a differentially expressed protein (e.g., full-length differentially expressed protein, a biologically active fragment of a differentially expressed protein, or a fusion protein which includes all or a portion of a differentially expressed protein). Moreover, a differentially expressed protein can be derived from any suitable mammalian species (e.g., human differentially expressed protein, rat differentially expressed protein or murine differentially expressed protein). The assay can be a binding assay entailing direct or indirect measurement of the binding of a test compound or a known differentially expressed protein ligand to a differentially expressed protein. The assay can also be an activity assay entailing direct or indirect measurement of the activity of a differentially expressed protein. The assay can also be an expression assay entailing direct or indirect measurement of the expression of a differentially expressed protein mRNA or a differentially expressed protein. The various screening assays are combined with an in vivo assay entailing measuring the effect of the test compound on the pain symptoms.

In one embodiment, the invention provides assays for screening candidate or test compounds which bind to or modulate the activity of a membrane-bound (cell surface expressed) form of the differentially expressed protein. Such assays can employ the full-length differentially expressed protein, a biologically active fragment of the differentially expressed protein, or a fusion protein which includes all or a portion of the differentially expressed protein. As described in greater detail below, the test compound can be obtained by any suitable means, e.g., from conventional compound libraries. Determining the ability of the test compound to bind to a membrane-bound form of the differentially expressed protein can be accomplished, for

example, by coupling the test compound with a radioisotope or enzymatic label such that binding of the test compound to the differentially expressed protein-expressing cell can be measured by detecting the labelled compound in a complex. For example, the test compound can be labelled with ^{125}I , ^{35}S , ^{14}C , or ^3H , either directly or indirectly, and the radioisotope detected by direct counting of radioemission or by scintillation counting. Alternatively, the test compound can be enzymatically labelled with, for example, horseradish peroxidase, alkaline phosphatase, or luciferase, and the enzymatic label detected by determination of conversion of an appropriate substrate to product.

In a competitive binding format, the assay comprises contacting the differentially expressed protein-expressing cell with a known compound which binds to the differentially expressed protein to form an assay mixture, contacting the assay mixture with a test compound, and determining the ability of the test compound to interact with the differentially expressed protein-expressing cell, wherein determining the ability of the test compound to interact with the differentially expressed protein-expressing cell comprises determining the ability of the test compound to preferentially bind the differentially expressed protein expressing cell as compared to the known compound.

In another embodiment, the assay is a cell-based assay comprising contacting a cell expressing a membrane-bound form of the differentially expressed protein (e.g., full-length differentially expressed protein, a biologically active fragment of the differentially expressed protein, or a fusion protein which includes all or a portion of the differentially expressed protein) expressed on the cell surface with a test compound and determining the ability of the test compound to modulate (e.g., stimulate or inhibit) the activity of the membrane-bound form of the differentially expressed protein. Determining the ability of the test compound to modulate the activity of the membrane-bound form of the differentially expressed protein can be accomplished by any method suitable for measuring the activity of the differentially expressed protein, e.g., any method suitable for measuring the activity of a G-protein coupled receptor or other seven-transmembrane receptor (described in greater detail below). The activity of a seven-transmembrane receptor can be measured in a number of ways, not all of which are suitable for any given receptor. Among the measures of activity are: alteration in intracellular Ca^{2+} concentration, activation of phospholipase C, alteration in intracellular inositol triphosphate (IP3)

concentration, alteration in intracellular diacylglycerol (DAG) concentration, and alteration in intracellular adenosine cyclic 3', 5'-monophosphate (cAMP) concentration.

The present invention includes biochemical, cell free assays that allow the identification of inhibitors and agonists of phosphodiesterases (PDEs) suitable as lead structures for pharmacological drug development. Such assays involve contacting a form of a differentially expressed protein (e.g., full-length differentially expressed protein, a biologically active fragment of a differentially expressed protein, or a fusion protein comprising all or a portion of a differentially expressed protein) with a test compound and determining the ability of the test compound to act as an antagonist (preferably) or an agonist of the enzymatic activity of a differentially expressed protein. In one embodiment, the assay includes monitoring the PDE activity of a differentially expressed protein by measuring the conversion of either cAMP or cGMP to its nucleoside monophosphate after contacting a differentially expressed protein with a test compound.

For example, cAMP and cGMP levels can be measured by the use of the tritium containing compounds 3HcAMP and 3HcGMP as described in [Hansen, R.S., and Beavo, J.A., PNAS USA1982;79: 2788-92]. To screen a compound pool comprised of a large number of compounds, the microtiter plate-based scintillation proximity assay (SPA) as described in [Bardelle, C. et al. (1999) Anal. Biochem. 275: 148-155] can be applied.

Alternatively, the phosphodiesterase activity of the recombinant protein can be assayed using a commercially available SPA kit (Amersham Pharmacia). The PDE enzyme hydrolyzes cyclic nucleotides, e.g. cAMP and cGMP to their linear counterparts. The SPA assay utilizes the tritiated cyclic nucleotides [3H]cAMP or [3H]cGMP, and is based upon the selective interaction of the tritiated non cyclic product with the SPA beads whereas the cyclic substrates are not effectively binding. Radiolabelled product bound to the scintillation beads generates light that can be analyzed in a scintillation counter.

The cell-free assays of the present invention are amenable to use of either a membrane-bound form of the differentially expressed protein or a soluble fragment thereof. In the case of cell-free assays comprising the membrane-bound form of the polypeptide, it may be desirable to utilize a solubilizing agent such that the membrane-bound form of the polypeptide is maintained

in solution. Examples of such solubilizing agents include, but are not limited to, non-ionic detergents such as n-octylglucoside, n-dodecylglucoside, n-dodecylmaltoside, octanoyl-N-methylglucamide, decanoyl-N-methylglucamide, Triton X-100, Triton X-114, Thesit, Iso-tri-decylpoly(ethylene glycol ether)n, 3-[(3-cholamidopropyl)dimethylamminio]-1-propane sulfonate (CHAPS), 3-[(3-cholamidopropyl)dimethylamminio]-2-hydroxy-1-propane sulfonate (CHAPSO), or N-dodecyl=N,N-dimethyl-3-ammonio-1-propane sulfonate.

In one embodiment, the invention provides assays for screening candidate or test compounds which bind to or modulate the activity of a differentially expressed protein. Such assays can employ full-length differentially expressed protein, a biologically active fragment of a differentially expressed protein, or a fusion protein which includes all or a portion of a differentially expressed protein. As described in greater detail below, the test compound can be obtained by any suitable means, e.g., from conventional compound libraries.

Determining the ability of the test compound to modulate the activity of a differentially expressed protein can be accomplished, for example, by determining the ability of a differentially expressed protein to bind to or interact with a target molecule. The target molecule can be a molecule with which a differentially expressed protein binds or interacts with in nature. The target molecule can be a component of a signal transduction pathway which facilitates transduction of an extracellular signal. The target differentially expressed protein molecule can be, for example, a second intracellular protein which has catalytic activity or a protein which facilitates the association of downstream signaling molecules with a differentially expressed protein.

Determining the ability of a differentially expressed protein to bind to or interact with a target molecule can be accomplished by one of the methods described above for determining direct binding. In one embodiment, determining the ability of a polypeptide of the invention to bind to or interact with a target molecule can be accomplished by determining the activity of the target molecule. For example, the activity of the target molecule can be determined by detecting induction of a cellular second messenger of the target (e.g., intracellular Ca^{2+} , diacylglycerol, IP3, etc.), detecting catalytic/enzymatic activity of the target on an appropriate substrate, detecting the induction of a reporter gene (e.g., a regulatory element that is responsive to a

polypeptide of the invention operably linked to a nucleic acid encoding a detectable marker, e.g., luciferase), or detecting a cellular response.

In various embodiments of the above assay methods of the present invention, it may be desirable to immobilize a differentially expressed protein (or a differentially expressed protein target molecule) to facilitate separation of complexed from uncomplexed forms of one or both of the proteins, as well as to accommodate automation of the assay. Binding of a test compound to a differentially expressed protein, or interaction of a differentially expressed protein with a target molecule in the presence and absence of a candidate compound, can be accomplished in any vessel suitable for containing the reactants. Examples of such vessels include microtitre plates, test tubes, and micro-centrifuge tubes. In one embodiment, a fusion protein can be provided which adds a domain that allows one or both of the proteins to be bound to a matrix. For example, glutathione-S-transferase (GST) fusion proteins or glutathione-S-transferase fusion proteins can be adsorbed onto glutathione sepharose beads (Sigma Chemical; St. Louis, Mo.) or glutathione derivatized microtitre plates, which are then combined with the test compound or the test compound and either the non-adsorbed target protein or a differentially expressed protein, and the mixture incubated under conditions conducive to complex formation (e.g., at physiological conditions for salt and pH). Following incubation, the beads or microtitre plate wells are washed to remove any unbound components and complex formation is measured either directly or indirectly, for example, as described above. Alternatively, the complexes can be dissociated from the matrix, and the level of binding or activity of a differentially expressed protein can be determined using standard techniques.

Other techniques for immobilizing proteins on matrices can also be used in the screening assays of the invention. For example, either a differentially expressed protein or its target molecule can be immobilized utilizing conjugation of biotin and streptavidin. Biotinylated polypeptide of the invention or target molecules can be prepared from biotin-NHS (N-hydroxy-succinimide) using techniques well known in the art (e.g., biotinylation kit, Pierce Chemicals; Rockford, Ill.), and immobilized in the wells of streptavidin-coated plates (Pierce Chemical). Alternatively, antibodies reactive with a differentially expressed protein or target molecules but which do not interfere with binding of the polypeptide of the invention to its target molecule can be derivatized to the wells of the plate, and unbound target or polypeptide of the invention

trapped in the wells by antibody conjugation. Methods for detecting such complexes, in addition to those described above for the GST-immobilized complexes, include immuno-detection of complexes using antibodies reactive with a differentially expressed protein or target molecule, as well as enzyme-linked assays which rely on detecting an enzymatic activity associated with a differentially expressed protein or target molecule.

Another technique for drug screening which may be used provides for high throughput screening of compounds having suitable binding affinity to the protein of interest as described in published PCT application WO84/03564. In this method, large numbers of different small test compounds are synthesized on a solid substrate, such as plastic pins or some other surface. The test compounds are reacted with a differentially expressed protein, or fragments thereof, and washed. Bound differentially expressed protein is then detected by methods well known in the art. Purified differentially expressed protein can also be coated directly onto plates for use in the afore-mentioned drug screening techniques. Alternatively, non-neutralizing antibodies can be used to capture the peptide and immobilize it on a solid support.

In another embodiment, one may use competitive drug screening assays in which neutralizing antibodies capable of binding differentially expressed protein specifically compete with a test compound for binding a differentially expressed protein. In this manner, antibodies can be used to detect the presence of any peptide which shares one or more antigenic determinants with a differentially expressed protein.

The screening assay can also involve monitoring the expression of a differentially expressed protein. For example, regulators of expression of a differentially expressed protein can be identified in a method in which a cell is contacted with a candidate compound and the expression of a differentially expressed protein or mRNA in the cell is determined. The level of expression of a differentially expressed protein or mRNA the presence of the candidate compound is compared to the level of expression of a differentially expressed protein or mRNA in the absence of the candidate compound. The candidate compound can then be identified as a regulator of expression of a differentially expressed protein based on this comparison. For example, when expression of a differentially expressed protein or mRNA protein is greater (statistically significantly greater) in the presence of the candidate compound than in its absence,

the candidate compound is identified as a stimulator of a differentially expressed protein or mRNA expression. Alternatively, when expression of a differentially expressed protein or mRNA is less (statistically significantly less) in the presence of the candidate compound than in its absence, the candidate compound is identified as an inhibitor of a differentially expressed protein or mRNA expression. The level of a differentially expressed protein or mRNA expression in the cells can be determined by methods described below.

Screening for therapeutic agents using Binding Assays

For binding assays, the test compound is preferably a small molecule which binds to and occupies the active site of a differentially expressed protein polypeptide, thereby making the ligand binding site inaccessible to substrate such that normal biological activity is prevented. Examples of such small molecules include, but are not limited to, small peptides or peptide-like molecules. Potential ligands which bind to a polypeptide of the invention include, but are not limited to, the natural ligands of known differentially expressed protein PDEs and analogues or derivatives thereof.

In binding assays, either the test compound or the differentially expressed polypeptide can comprise a detectable label, such as a fluorescent, radioisotopic, chemiluminescent, or enzymatic label, such as horseradish peroxidase, alkaline phosphatase, or luciferase. Detection of a test compound which is bound to differentially expressed polypeptide can then be accomplished, for example, by direct counting of radioemmission, by scintillation counting, or by determining conversion of an appropriate substrate to a detectable product. Alternatively, binding of a test compound to a differentially expressed polypeptide can be determined without labeling either of the interactants. For example, a microphysiometer can be used to detect binding of a test compound with a differentially expressed polypeptide. A microphysiometer (e.g., Cytosensor™) is an analytical instrument that measures the rate at which a cell acidifies its environment using a light-addressable potentiometric sensor (LAPS). Changes in this acidification rate can be used as an indicator of the interaction between a test compound and a differentially expressed protein [Haseloff, (1988)].

Determining the ability of a test compound to bind to differentially expressed protein also can be accomplished using a technology such as real-time Bimolecular Interaction Analysis

(BIA) [McConnell, (1992); Sjolander, (1991)]. BIA is a technology for studying biospecific interactions in real time, without labeling any of the interactants (e.g., BIAcore™). Changes in the optical phenomenon surface plasmon resonance (SPR) can be used as an indication of real-time reactions between biological molecules.

5 In yet another aspect of the invention, a differentially expressed protein-like polypeptide can be used as a “bait protein” in a two-hybrid assay or three-hybrid assay [Szabo, (1995); U.S. 5,283,317], to identify other proteins which bind to or interact with a differentially expressed protein and modulate its activity.

10 The two-hybrid system is based on the modular nature of most transcription factors, which consist of separable DNA-binding and activation domains. Briefly, the assay utilizes two different DNA constructs. For example, in one construct, polynucleotide encoding a differentially expressed protein can be fused to a polynucleotide encoding the DNA binding domain of a known transcription factor (e.g., GAL-4). In the other construct a DNA sequence that encodes an unidentified protein (“prey” or “sample”) can be fused to a polynucleotide that
15 codes for the activation domain of the known transcription factor. If the “bait” and the “prey” proteins are able to interact in vivo to form an protein-dependent complex, the DNA-binding and activation domains of the transcription factor are brought into close proximity. This proximity allows transcription of a reporter gene (e.g., LacZ), which is operably linked to a transcriptional regulatory site responsive to the transcription factor. Expression of the reporter gene can be
20 detected, and cell colonies containing the functional transcription factor can be isolated and used to obtain the DNA sequence encoding the protein which interacts with a differentially expressed protein.

25 It may be desirable to immobilize either the differentially expressed protein (or polynucleotide) or the test compound to facilitate separation of the bound form from unbound forms of one or both of the interactants, as well as to accommodate automation of the assay. Thus, either the differentially expressed protein-like polypeptide (or polynucleotide) or the test compound can be bound to a solid support. Suitable solid supports include, but are not limited to, glass or plastic slides, tissue culture plates, microtiter wells, tubes, silicon chips, or particles such as beads (including, but not limited to, latex, polystyrene, or glass beads). Any method

known in the art can be used to attach the differentially expressed protein-like polypeptide (or polynucleotide) or test compound to a solid support, including use of covalent and non-covalent linkages, passive absorption, or pairs of binding moieties attached respectively to the polypeptide (or polynucleotide) or test compound and the solid support. Test compounds are preferably
5 bound to the solid support in an array, so that the location of individual test compounds can be tracked. Binding of a test compound to the differentially expressed protein (or a polynucleotide encoding for the differentially expressed protein) can be accomplished in any vessel suitable for containing the reactants. Examples of such vessels include microtiter plates, test tubes, and microcentrifuge tubes.

10 In one embodiment, the differentially expressed protein is a fusion protein comprising a domain that allows binding of the differentially expressed protein to a solid support. For example, glutathione-S-transferase fusion proteins can be adsorbed onto glutathione sepharose beads (Sigma Chemical, St. Louis, Mo.) or glutathione derivatized microtiter plates, which are then combined with the test compound or the test compound and the non-adsorbed differentially
15 expressed protein; the mixture is then incubated under conditions conducive to complex formation (e.g., at physiological conditions for salt and pH). Following incubation, the beads or microtiter plate wells are washed to remove any unbound components. Binding of the interactants can be determined either directly or indirectly, as described above. Alternatively, the complexes can be dissociated from the solid support before binding is determined.

20 Other techniques for immobilizing proteins or polynucleotides on a solid support also can be used in the screening assays of the invention. For example, either the differentially expressed protein (or a polynucleotide encoding the differentially expressed protein) or a test compound can be immobilized utilizing conjugation of biotin and streptavidin. Biotinylated differentially expressed protein (or a polynucleotide encoding biotinylated differentially expressed protein) or
25 test compounds can be prepared from biotin-NHS (N-hydroxysuccinimide) using techniques well known in the art (e.g., biotinylation kit, Pierce Chemicals, Rockford, Ill.) and immobilized in the wells of streptavidin-coated plates (Pierce Chemical). Alternatively, antibodies which specifically bind to the differentially expressed protein, polynucleotide, or a test compound, but which do not interfere with a desired binding site, such as the active site of the differentially

expressed protein, can be derivatized to the wells of the plate. Unbound target or protein can be trapped in the wells by antibody conjugation.

Methods for detecting such complexes, in addition to those described above for the GST-immobilized complexes, include immunodetection of complexes using antibodies which specifically bind to the differentially expressed protein or test compound, enzyme-linked assays which rely on detecting an activity of the differentially expressed protein, and SDS gel electrophoresis under non-reducing conditions.

Screening for test compounds which bind to the differentially expressed protein or polynucleotide also can be carried out in an intact cell. Any cell which comprises the differentially expressed polypeptide or polynucleotide can be used in a cell-based assay system. A differentially expressed protein polynucleotide can be naturally occurring in the cell or can be introduced using techniques such as those described above. Binding of the test compound to the differentially expressed protein or a polynucleotide encoding the differentially expressed protein is determined as described above.

Functional Assays

Test compounds can be tested for the ability to increase or decrease activity of a differentially expressed polypeptide. The differentially expressed protein activity can be measured, for example, using methods described in the specific examples, below. differentially expressed protein activity can be measured after contacting either a purified differentially expressed protein or an intact cell with a test compound. A test compound which decreases the differentially expressed protein activity by at least about 10, preferably about 50, more preferably about 75, 90, or 100% is identified as a potential agent for decreasing the differentially expressed protein activity. A test compound which increases the differentially expressed protein activity by at least about 10, preferably about 50, more preferably about 75, 90, or 100% is identified as a potential agent for increasing the differentially expressed protein activity.

Gene Expression

In another embodiment, test compounds which increase or decrease the differentially expressed protein gene expression are identified (i.e., test compounds which increase or decrease the expression of a differentially expressed polynucleotide sequence of the invention). As used herein, the term “correlates with expression of a poly-nucleotide“ indicates that the detection of the presence of nucleic acids, the same or related to a nucleic acid sequence encoding the differentially expressed protein, by northern analysis or realtime PCR is indicative of the presence of nucleic acids encoding the differentially expressed protein in a sample, and thereby correlates with expression of the transcript from the polynucleotide encoding the differentially expressed protein. The term “microarray“, as used herein, refers to an array of distinct polynucleotides or oligonucleotides arrayed on a substrate, such as paper, nylon or any other type of membrane, filter, chip, glass slide, or any other suitable solid support. A differentially expressed protein polynucleotide is contacted with a test compound, and the expression of an RNA or polypeptide product of the differentially expressed protein polynucleotide is determined. The level of expression of appropriate mRNA or polypeptide in the presence of the test compound is compared to the level of expression of mRNA or polypeptide in the absence of the test compound. The test compound can then be identified as a regulator of expression based on this comparison. For example, when expression of mRNA or polypeptide is greater in the presence of the test compound than in its absence, the test compound is identified as a stimulator or enhancer of the mRNA or polypeptide expression. Alternatively, when expression of the mRNA or polypeptide is less in the presence of the test compound than in its absence, the test compound is identified as an inhibitor of the mRNA or polypeptide expression.

The level of the differentially expressed protein mRNA or polypeptide expression in the cells can be determined by methods well known in the art for detecting mRNA or polypeptide. Either qualitative or quantitative methods can be used. The presence of polypeptide products of the differentially expressed protein polynucleotide can be determined, for example, using a variety of techniques known in the art, including immunochemical methods such as radioimmunoassay, Western blotting, and immunohistochemistry. Alternatively, polypeptide synthesis can be determined in vivo, in a cell culture, or in an in vitro translation system by detecting incorporation of labeled amino acids into the differentially expressed protein.

Such screening can be carried out either in a cell-free assay system or in an intact cell. Any cell which expresses the differentially expressed protein polynucleotide can be used in a cell-based assay system. The differentially expressed protein polynucleotide can be naturally occurring in the cell or can be introduced using techniques such as those described above. Either
5 a primary culture or an established cell line can be used.

Screening of therapeutic agents against pain-specific array

In one embodiment the present invention provides a method for screening agents for their ability to regulate the expression of genes which are differentially expressed in an animal subjected to pain. In brief, the method comprises administering to an animal subjected to pain,
10 such as an animal pain model, a potentially therapeutic agent, isolating nucleic acid from sensory neurons of the animal, preparing the nucleic acid for hybridization to a microarray as described above, and hybridizing the nucleic acid to a pain-specific microarray. The hybridization level is then compared to the hybridization of a nucleic acid sample contacted with the pain-specific microarray obtained from an animal subjected to pain, but not administered the potentially
15 therapeutic agent. In one embodiment, the potentially therapeutic agent is deemed to be therapeutic if the expression level of the nucleic acid sequence obtained from the animal subjected to pain and treated with the agent is no longer differentially expressed by at least 1.4 fold, and wherein the expression of the nucleic acid sequence obtained from the animal subjected to pain but not treated with the agent remains differentially regulated. The nucleic acid
20 sequences analyzed to determine therapeutic efficacy can include any of the sequences previously identified (see above) as being differentially expressed in an animal subjected to pain.

Animals may be administered any potentially therapeutic agent known in the art, including antisense molecules, ribozymes, and supplemental nucleic acid sequences as described above. Additional therapeutic agents include any agent known in the art which is routinely
25 administered for the amelioration of pain including, but not limited to aspirin, ibuprofen, narcotics, steroidal and non-steroidal anti-inflammatories, and the like. These agents are administered according to dosing protocols well known in the art.

Screening of therapeutic agents against individual genes that are differentially expressed in pain

Candidate therapeutic agents of the invention are screened for their ability to regulate the expression of one or more isolated polynucleotide sequences which have been identified herein as differentially regulated in an animal which has been subjected to pain relative to an animal that is not subjected to pain. In one embodiment, the screen consists of administering a candidate therapeutic agent, as defined herein, or a placebo, to an animal that is subjected to pain and hybridizing a nucleic acid sample, corresponding to RNA obtained from such a treated or non treated animal, to a probe specific for a polynucleotide sequence selected from the group of isolated polynucleotide sequences of Tables 1, 2, 3, 4, or 5. In another embodiment, the screen consists of administering a candidate therapeutic agent, as defined herein, or a placebo, to an *in vitro* cell culture of primary cells for example, primary neurons, that naturally express polynucleotide sequences selected from the group of isolated polynucleotide sequences of Tables 1, 2, 3, 4, or 5. In a further embodiment, the screen consists of administering a candidate therapeutic agent, as defined herein, or a placebo, to cell lines that have been transfected with vectors that direct the expression of polynucleotide sequences selected from the group of isolated polynucleotide sequences of Tables 1, 2, 3, 4, or 5. In a further embodiment, the screen consists of administering a candidate therapeutic agent, as defined herein, or a placebo, to a transgenic animal in which a neural specific promoter drives the expression of a polynucleotide sequence selected from the group of isolated polynucleotide sequences of Tables 1, 2, 3, 4, or 5. In all instances, a 10% increase or decrease in the differential expression of a gene in response to a therapeutic compound is indicative of a therapeutic agent that can modulate the differential expression of a gene that is differentially regulated in an animal which has been subjected to pain relative to an animal that is not subjected to pain. In a preferred embodiment, nucleic acid samples obtained from treated and non-treated animals or *in vitro* cell cultures are hybridized to 1 or more, 2 or more, 5 or more, 50 or more, 100 or more, 500 or more, 1000 or more probes, each probe being specific to a polynucleotide sequence selected from the group of differentially expressed polynucleotide sequences of Tables 1, 2, 3, 4, or 5.

Methods for measuring the differential expression of one or more of the polynucleotides sequences of Tables 1, 2, 3, 4, or 5 in nucleic acid samples from treated animals relative to non-treated animals, are well known in the art and include, but are not limited to, reverse transcription PCR (RT-PCR; described in U.S. Patent No. 5,4078,00), Taqman (as disclosed in U.S. Patent Nos. 5,210,015 and 5,487,972), Molecular Beacon assays (as disclosed in WO

95/13399), Northern blot hybridization, S1 nuclease mapping, RNase protection assays which are described in the literature. See, e.g., Sambrook, Fritsch & Maniatis, 1989, Molecular Cloning: A Laboratory Manual, Second Edition ; Oligonucleotide Synthesis (M.J. Gait, ed., 1984); Nucleic Acid Hybridization (B.D. Hames & S.J. Higgins, eds., 1984); A Practical Guide to Molecular Cloning (B. Perbal, 1984); and a series, Methods in Enzymology (Academic Press, Inc.); Short Protocols In Molecular Biology, (Ausubel et al., ed., 1995). References to patents and literature are by incorporated in their entirety.

Compounds identified as positives based on this screen can be further tested for activity in the *in vitro* cell culture assay, *in vivo* protein activity assay or analgesic assays, described herein, to determine if these compounds are effective at modulating differential gene expression in response to pain and ultimately attenuating pain itself.

Polypeptide Activity

In one embodiment, the present invention provides a method for screening potentially therapeutic agents which modulate the activity of one or more polypeptides encoded by one or more of the polynucleotide sequences in Tables 1, 2, 3, 4, or 5, such that if the activity of the polypeptide is increased in an animal subjected to pain, the therapeutic substance will decrease the activity of the polypeptide relative to the activity of the same polypeptide in an animal subjected to pain, but not treated with the therapeutic agent. Likewise, if the activity of the polypeptide is decreased in an animal subjected to pain, the therapeutic substance will increase the activity of the polypeptide relative to the activity of the same polypeptide in an animal subjected to the same pain, but not treated with the therapeutic agent.

The activity of the polypeptide molecules encoded by the polynucleotides indicated in Tables 1, 2, 3, 4, or 5 may be measured by any means known to those of skill in the art, and which are particular for the type of activity performed by the particular polypeptide. Examples of specific assays which may be used to measure the activity of particular polynucleotide products are shown below.

(a) G-protein coupled receptors

In one embodiment, the one or more of the differentially regulated polynucleotides of Tables 1, 2, 3, 4, or 5 may encode a G-protein coupled receptor. In one embodiment, the present invention provides a method of screening potential agonists and antagonists of the family of G-protein coupled receptors, including G_s , G_i , and G_q , encoded by the differentially expressed polynucleotides of the present invention by measuring changes in the activity of these receptors in the presence of a candidate agonist or antagonist.

1. G_i –coupled receptor screening

Cells (such as CHO cells, or primary cells) are stably transfected with the relevant receptor and with an inducible CRE-luciferase construct. Cells are grown in 50% Dulbecco's modified Eagle medium / 50% F12 (DMEM/F12) supplemented with 10% FBS, at 37°C in a humidified atmosphere with 10% CO₂ and are routinely split at a ratio of 1:10 every 2 or 3 days. Test cultures are seeded into 384 – well plates at an appropriate density (e.g. 2000 cells / well in 35 μ l cell culture medium) in DMEM/F12 with FBS, and are grown for 48 hours (range: ~ 24 - 60 hours, depending on cell line). Growth medium is then exchanged against serum free medium (SFM; e.g. Ultra-CHO), containing 0,1% BSA. Test compounds dissolved in DMSO are diluted in SFM and transferred to the test cultures (maximal final concentration 10 μ molar), followed by addition of forskolin (~ 1 μ molar, final conc.) in SFM + 0,1% BSA 10 minutes later. In case of antagonist screening both, an appropriate concentration of agonist, and forskolin are added. The plates are incubated at 37°C in 10% CO₂ for 3 hours. Then the supernatant is removed, cells are lysed with lysis reagent (25 mmolar phosphate-buffer, pH 7,8 , containing 2 mmolar DDT, 10% glycerol and 3% Triton X100). The luciferase reaction is started by addition of substrate-buffer (e.g. luciferase assay reagent, Promega) and luminescence is immediately determined (e.g. Berthold luminometer or Hamamatzu camera system).

2. G_s –coupled receptor screening

Cells (such as CHO, or primary cells) are stably transfected with the relevant receptor and with an inducible CRE-luciferase construct. Cells are grown in 50% Dulbecco's modified Eagle medium / 50% F12 (DMEM/F12) supplemented with 10% FBS, at 37°C in a humidified atmosphere with 10% CO₂ and are routinely split at a ratio of 1:10 every 2 or 3 days. Test cultures are seeded into 384 – well plates at an appropriate density (e.g. 1000 or 2000 cells / well

in 35 µl cell culture medium) in DMEM/F12 with FBS, and are grown for 48 hours (range: ~ 24 - 60 hours, depending on cell line). The assay is started by addition of test-compounds in serum free medium (SFM; e.g. Ultra-CHO) containing 0,1% BSA: Test compounds are dissolved in DMSO, diluted in SFM and transferred to the test cultures (maximal final concentration 10 µmolar, DMSO conc. < 0,6 %). In case of antagonist screening an appropriate concentration of agonist is added 5 – 10 minutes later. The plates are incubated at 37°C in 10% CO₂ for 3 hours. Then the cells are lysed with 10 µl lysis reagent per well (25 mmolar phosphate-buffer, pH 7,8 , containing 2 mmolar DDT, 10% glycerol and 3% Triton X100) and the luciferase reaction is started by addition of 20 µl substrate-buffer per well (e.g. luciferase assay reagent, Promega). Measurement of luminescence is started immediately (e.g. Berthold luminometer or Hamamatzu camera system).

3. G_q –coupled receptor screening

Cells (such as CHO, or primary cells) are stably transfected with the relevant receptor. Cells expressing functional receptor protein are grown in 50% Dulbecco's modified Eagle medium / 50% F12 (DMEM/F12) supplemented with 10% FBS, at 37°C in a humidified atmosphere with 5% CO₂ and are routinely split at a cell line dependent ratio every 3 or 4 days. Test cultures are seeded into 384 – well plates at an appropriate density (e.g. 2000 cells / well in 35 µl cell culture medium) in DMEM/F12 with FBS, and are grown for 48 hours (range: ~ 24 - 60 hours, depending on cell line). Growth medium is then exchanged against physiological salt solution (e.g. Tyrode solution). Test compounds dissolved in DMSO are diluted in Tyrode solution containing 0.1% BSA and transferred to the test cultures (maximal final concentration 10 µmolar). After addition of the receptor specific agonist the resulting G_q-mediated intracellular calcium increase is measured using appropriate read-out systems (e.g. calcium-sensitive dyes).

(b) Ion channels

Ion channels are integral membrane proteins involved in electrical signaling, transmembrane signal transduction, and electrolyte and solute transport. By forming macromolecular pores through the membrane lipid bilayer, ion channels account for the flow of specific ion species driven by the electrochemical potential gradient for the permeating ion. At

the single molecule level, individual channels undergo conformational transitions ("gating") between the 'open' (ion conducting) and 'closed' (non conducting) state. Typical single channel openings last for a few milliseconds and result in elementary transmembrane currents in the range of 10^{-9} - 10^{-12} Ampere. Channel gating is controlled by various chemical and/or biophysical parameters, such as neurotransmitters and intracellular second messengers ('ligand-gated' channels) or membrane potential ('voltage-gated' channels). Ion channels are functionally characterized by their ion selectivity, gating properties, and regulation by hormones and pharmacological agents. Because of their central role in signaling and transport processes, ion channels present ideal targets for pharmacological therapeutics in various pathophysiological settings.

In one embodiment, the one or more of the differentially regulated polynucleotides of Tables 1, 2, 3, 4, or 5 may encode an ion channel. In one embodiment, the present invention provides a method of screening potential activators or inhibitors of channel activity encoded by the differentially expressed polynucleotides of the present invention. Screening for compounds interacting with ion channels to either inhibit or promote their activity can be based on (1.) binding and (2.) functional assays in living cells (see for example, Hille, 1992, Ion Channels of Excitable Membranes Sunderland, MA, Sinauer Associates, Inc.; incorporated herein by reference in its entirety).

1. For ligand-gated channels, e.g. ionotropic neurotransmitter/hormone receptors, assays can be designed detecting binding to the target by competition between the compound and a labeled ligand.

2. Ion channel function can be tested functionally in living cells. Target proteins are either expressed endogenously in appropriate reporter cells or are introduced recombinantly. Channel activity can be monitored by (2.1) concentration changes of the permeating ion (most prominently Ca^{2+} ions), (2.2) by changes in the transmembrane electrical potential gradient, and (2.3) by measuring a cellular response (e.g. expression of a reporter gene, secretion of a neurotransmitter) triggered or modulated by the target activity.

2.1. Channel activity results in transmembrane ion fluxes. Thus activation of ionic channels can be monitored by the resulting changes in intracellular ion concentrations

using luminescent or fluorescent indicators. Because of its wide dynamic range and availability of suitable indicators this applies particularly to changes in intracellular Ca^{2+} ion concentration ($[\text{Ca}^{2+}]_i$). $[\text{Ca}^{2+}]_i$ can be measured, for example, by aequorin luminescence or fluorescence dye technology (e.g. using Fluo-3, Indo-1, Fura-2). Cellular assays can be designed where either the Ca^{2+} flux through the target channel itself is measured directly or where modulation of the target channel affects membrane potential and thereby the activity of co-expressed voltage-gated Ca^{2+} channels.

2.2. Ion channel currents result in changes of electrical membrane potential (V_m) which can be monitored directly using potentiometric fluorescent probes. These electrically charged indicators (e.g. the anionic oxonol dye DiBAC4(3)) redistribute between extra- and intracellular compartment in response to voltage changes. The equilibrium distribution is governed by the Nernst-equation. Thus changes in membrane potential results in concomitant changes in cellular fluorescence. Again, changes in V_m might be caused directly by the activity of the target ion channel or through amplification and/or prolongation of the signal by channels co-expressed in the same cell.

2.3. Target channel activity can cause cellular Ca^{2+} entry either directly or through activation of additional Ca^{2+} channel (see 2.1). The resulting intracellular Ca^{2+} signals regulate a variety of cellular responses, e.g. secretion or gene transcription. Therefore modulation of the target channel can be detected by monitoring secretion of a known hormone/transmitter from the target-expressing cell or through expression of a reporter gene (e.g. luciferase) controlled by an Ca^{2+} -responsive promoter element (e.g. cyclic AMP/ Ca^{2+} -responsive elements; CRE).

(c) Transcription factors

In one embodiment, one or more of the differentially expressed polynucleotide sequences of Tables 1, 2, 3, 4, or 5 may encode a transcription factor. The activity of such a transcription factor may be measured, for example, by a promotor assay which measures the ability of the transcription factor to initiate transcription of a test sequence linked to a particular promotor. In one embodiment, the present invention provides a method for screening a test compound for its ability to modulate the activity of such a transcription factor by measuring the changes in the

expression of a test gene which is regulated by a promoter which is responsive to the transcription factor.

A promoter assay can be set up with a human hepatocellular carcinoma cell HepG2 that is stably transfected with a luciferase gene under the control of a X (e.g. thyroid hormone) regulated promoter. The vector 2xIROluc, which can be used for transfection, carries a thyroid hormone responsive element (TRE) of two 12 bp inverted palindromes separated by an 8 bp spacer in front of a tk minimal promoter and the luciferase gene.

Test cultures are seeded in 96 well plates in serum - free Eagle's Minimal Essential Medium supplemented with glutamine, tricine, sodium pyruvate, non - essential amino acids, insulin, selen, transferrin, and are cultivated in a humidified atmosphere at 10 % CO₂ at 37°C. After 48 hours of incubation serial dilutions of test compounds or reference compounds (L-T₃, L-T₄ e.g.) and costimulator if appropriate (final concentration 1 nM) are added to the cell cultures and incubation is continued for the optimal time (e.g. another 4-72 hours). The cells are then lysed by addition of buffer containing Triton X100 and luciferin and the luminescence of luciferase induced by T₃ or other compounds is measured in a luminometer. For each concentration of a test compound replicates of 4 can be tested. EC₅₀ - values for each test compound can be calculated by use of, for example, the Graph Pad Prism Scientific software.

Screening of Therapeutic agents that modulate the in vivo activity of proteins encoded by genes that are Differentially Expressed in Pain

The invention further provides for a screen of therapeutic compounds that modulate the in vivo activity of proteins encoded by genes that are differentially expressed in an animal subjected to pain (see Tables 1, 2, 3, 4, or 5). Methods for measuring changes in the in vivo activity of the proteins of the invention are well known in the art and include, but are not limited to, testing for changes in enzymatic activity, G coupled receptor activity or ion channel activity (as described herein under Polypeptide Activity); transcription factor function or the activity of signal transduction pathway intermediates. Generally, these methods involve administering a candidate compound, as defined herein, or a placebo, to an animal that has been subjected to pain, preparing protein extracts from neural tissues and testing for a modulation in the protein activity in the extract in response to the candidate compound. In one embodiment, "protein

activity” refers to the activity of a protein that is encoded by a gene that has been identified as a gene that is differentially expressed in an animal subjected to pain. In another embodiment, “protein activity” refers to the activity of one or more proteins whose activity is modulated by a protein that is encoded by a gene that has been identified as a gene that is differentially expressed in an animal subjected to pain.

In one embodiment, the “protein activity”, according to the invention, refers to the ability of one or more ligands to bind to cell surface receptors that are differentially expressed in animals subjected to pain. For example, WO0102566A1 describes a screen for compounds that modulate the binding of glutamate to glutamate binding receptors.

In another embodiment, the “protein activity”, according to the invention, is controlled by post-translational protein modification, e.g. phosphorylation or dephosphorylation. For example the protein, identified as being encoded by a gene that is differentially expressed in animals subjected to pain, may be a kinase, whose activity is modulated in response to a candidate compound either by direct phosphorylation or dephosphorylation. Alternatively, the activity of the kinase can be determined by assaying the phosphorylation of one or more substrates of the kinase. Methods for measuring the phosphorylation state of a protein are well known to a person skilled in the art. Typically radioactive phosphate is administered to a test animal that is then subjected to pain in the presence or absence of a therapeutic compound. Protein extracts are then prepared from neurological tissues and the protein of interest is isolated by immunoprecipitation and analyzed by SDS polyacrylamide electrophoresis. A 10% or more increase or decrease in the level of phosphorylation of the protein of interest in the presence of a compound relative to the level of phosphorylation in the absence of the compound is indicative of a compound that modulates the “protein activity”.

More generally, a gene, that is differentially expressed in animals subjected to pain, may encode a kinase or phosphatase that is part of a signal transduction pathway known in the art. If so, modulation of the activity of the kinase or phosphatase in response to a candidate compound can be determined by assaying the activity of pathway intermediates that are found downstream of the kinase or phosphatase in the pathway. For example, the activity of a kinase or phosphatase can be determined by measuring effects on gene expression or transcription factor

activity. Methods for measuring differential gene expression or transcription factor function are well known in the art and are described supra. For example, the binding activity of a transcription factor to its cognate DNA binding site can be tested in protein extracts derived from treated animals using a mobility shift type analysis (see, e.g., Sambrook, Fritsch & Maniatis, 1989, Molecular Cloning: A Laboratory Manual, Second Edition; Short Protocols In Molecular Biology, (Ausubel et al., ed., 1995)). In addition, the ability of a transcription factor to activate transcription from a promoter containing one or more cognate DNA binding sites can also be tested using standard reporter type assays (GFP, CAT, lacZ) that are also well known in the art (See Ausubel et al; supra).

10 Modeling of Regulators

Computer modeling and searching technologies permit identification of compounds, or the improvement of already identified compounds, that can modulate the differentially expressed protein expression or activity. Having identified such a compound or composition, the active sites or regions are identified. Such sites might typically be the enzymatic active site, regulator binding sites, or ligand binding sites. The active site can be identified using methods known in the art including, for example, from the amino acid sequences of peptides, from the nucleotide sequences of nucleic acids, or from study of complexes of the relevant compound or composition with its natural ligand. In the latter case, chemical or X-ray crystallographic methods can be used to find the active site by finding where on the factor the complexed ligand is found.

Next, the three dimensional geometric structure of the active site is determined. This can be done by known methods, including X-ray crystallography, which can determine a complete molecular structure. On the other hand, solid or liquid phase NMR can be used to determine certain intramolecular distances. Any other experimental method of structure determination can be used to obtain partial or complete geometric structures. The geometric structures may be measured with a complexed ligand, natural or artificial, which may increase the accuracy of the active site structure determined.

If an incomplete or insufficiently accurate structure is determined, the methods of computer based numerical modeling can be used to complete the structure or improve its accuracy. Any recognized modeling method may be used, including parameterized models

specific to particular biopolymers such as proteins or nucleic acids, molecular dynamics models based on computing molecular motions, statistical mechanics models based on thermal ensembles, or combined models. For most types of models, standard molecular force fields, representing the forces between constituent atoms and groups, are necessary, and can be selected from force fields known in physical chemistry. The incomplete or less accurate experimental structures can serve as constraints on the complete and more accurate structures computed by these modeling methods.

Finally, having determined the structure of the active site, either experimentally, by modeling, or by a combination, candidate modulating compounds can be identified by searching databases containing compounds along with information on their molecular structure. Such a search seeks compounds having structures that match the determined active site structure and that interact with the groups defining the active site. Such a search can be manual, but is preferably computer assisted. These compounds found from this search are potential the differentially expressed protein modulating compounds.

Alternatively, these methods can be used to identify improved modulating compounds from an already known modulating compound or ligand. The composition of the known compound can be modified and the structural effects of modification can be determined using the experimental and computer modeling methods described above applied to the new composition. The altered structure is then compared to the active site structure of the compound to determine if an improved fit or interaction results. In this manner systematic variations in composition, such as by varying side groups, can be quickly evaluated to obtain modified modulating compounds or ligands of improved specificity or activity.

Diagnostic Assays

The present invention provides a method for detecting pain in an animal suspected of having pain, wherein the amount of one or more polynucleotide and/or polypeptide sequences described herein, particularly in Table 11, is measured in the animal and compared with the amount measured in an animal which is not suspected of having pain. If an increase or decrease in the amount of the polynucleotide and/or polypeptide sequence of at least 1.2 fold and statistically significant at $P < 0.05$ is measured, then the animal suspected of having pain is

identified as having pain. Preferably the amount of a polynucleotide and/or polypeptide sequence measured in an animal suspected of having pain will be increased or decreased by 1.4 fold relative to the amount measured in an animal not suspected of having pain.

The amount of a polynucleotide and/or polypeptide sequence described herein may be measured from any tissue/fluid in an animal, but is preferably measured in a sensory neuron such as a DH neuron or DRG neuron. In one embodiment, a polynucleotide/polypeptide sequence of the invention is expressed in a sensory neuron and then secreted into the blood, lymph, or CSF, wherein it is subsequently detected. Alternatively, or in addition, a polypeptide and/or polynucleotide sequence can be measured in a "patient sample" which includes, but is not limited to blood, serum, plasma, and cerebrospinal fluid.

Sensory neuron and/or patient samples may be obtained and utilized according to methods which are well known in the art, and screened, according to the invention, to detect the presence of one or more of the sequences of Tables 1-11 by methods which are well known in the art. "Detecting" as used herein refers to the identification of the presence or absence of a molecule in a sample. Where the molecule to be detected is a polypeptide, the step of detecting can be performed by binding the polypeptide with an antibody that is detectably labeled. A detectable label is a molecule which is capable of generating, either independently, or in response to a stimulus, an observable signal. A detectable label can be, but is not limited to a fluorescent label, a chromogenic label, a luminescent label, or a radioactive label. Methods for "detecting" a label include quantitative and qualitative methods adapted for standard or confocal microscopy, FACS analysis, and those adapted for high throughput methods involving multiwell plates, arrays or microarrays. One of skill in the art can select appropriate filter sets and excitation energy sources for the detection of fluorescent emission from a given fluorescent polypeptide or dye. "Detecting" as used herein can also include the use of multiple antibodies to a polypeptide to be detected, wherein the multiple antibodies bind to different epitopes on the polypeptide to be detected. Antibodies used in this manner can employ two or more detectable labels, and can include, for example a FRET pair. A polypeptide molecule, such as the a polypeptide of Table 11, is "detected" according to the present invention when the level of detectable signal is at all greater than the background level of the detectable label, or where the level of measured nucleic acid is at all greater than the level measured in a control sample.

As used herein, “detecting” as it refers to detecting the presence of a target nucleic acid molecule (e.g., a nucleic acid molecule shown in Table 11) refers to a process wherein the signal generated by a directly or indirectly labeled probe nucleic acid molecule (capable of hybridizing to a target, e.g., a sequence of Table 11, in a serum sample) is measured or observed. Thus, detection of the probe nucleic acid is directly indicative of the presence, and thus the detection, of a target nucleic acid. For example, if the detectable label is a fluorescent label, the target nucleic acid is detected by observing or measuring the light emitted by the fluorescent label on the probe nucleic acid when it is excited by the appropriate wavelength, or if the detectable label is a fluorescence/quencher pair, the target nucleic acid is detected by observing or measuring the light emitted upon association or dissociation of the fluorescence/quencher pair present on the probe nucleic acid, wherein detection of the probe nucleic acid indicates detection of the target nucleic acid. If the detectable label is a radioactive label, the target nucleic acid, following hybridization with a radioactively labeled probe is detected by, for example, autoradiography. Methods and techniques for detecting fluorescent, radioactive, and other chemical labels may be found in Ausubel et al. (1995, Short Protocols in Molecular Biology, 3rd Ed. John Wiley and Sons, Inc.). Alternatively, a nucleic acid may be indirectly detected wherein a moiety is attached to a probe nucleic acid which will hybridize with the target, such as an enzyme activity, allowing detection in the presence of an appropriate substrate, or a specific antigen or other marker allowing detection by addition of an antibody or other specific indicator. Alternatively, a target nucleic acid molecule can be detected by amplifying a nucleic acid sample prepared from a patient clinical sample, using oligonucleotide primers which are specifically designed to hybridize with a portion of the target nucleic acid sequence. Quantative amplification methods, such as, but not limited to TaqMan, may also be used to detect a target nucleic acid according to the invention. A nucleic acid molecule is detected as used herein where the level of nucleic acid measured (such as by quantitative PCR), or the level of detectable signal provided by the detectable label is at all above the background level.

In clinical applications, animal tissue samples, preferably serum, can be screened for the presence and/or absence of one or more of the sequences of the invention, and in particular, of Table 11. Such samples may comprise tissue samples, whole cells, cell lysates, or isolated nucleic acids, including, for example, needle biopsy cores, surgical resection samples, lymph node tissue, cerebrospinal fluid, or serum. A sample for analysis as described herein is

preferably a serum sample. A serum sample may be obtained from an animal using methods which are well known to those of skill in the art. Briefly, a whole venous or arterial blood sample from an animal is collected into a test tube. The whole blood sample is permitted to incubate at room temperature for approximately 15-30 to allow the blood to clot. Once clotted, the sample is centrifuged at approximately 1500 to 3000 rpm for 5-30 minutes to completely separate the serum from the cellular components. This centrifugation may be repeated if necessary to achieve complete separation. The resulting serum sample may be subsequently screened for the presence of one or more of the nucleic acid or amino acid sequences described herein.

10 Analgesia Assays: In vivo testing of compounds/target validation for pain treatment

Acute Pain

Acute pain is measured on a hot plate mainly in rats. Two variants of hot plate testing are used: In the classical variant animals are put on a hot surface (52 to 56 °C) and the latency time is measured until the animals show nocifensive behavior, such as stepping or foot licking. The other variant is an increasing temperature hot plate where the experimental animals are put on a surface of neutral temperature. Subsequently this surface is slowly but constantly heated until the animals begin to lick a hind paw. The temperature which is reached when hind paw licking begins is a measure for pain threshold.

Compounds are tested against a vehicle treated control group. Substance application is performed at different time points via different application routes (intravenous (i.v.), intra-peritoneal (i.p.), by mouth (p.o.), by inhalation (i.t.), Intracerebroventricular (i.c.v.), subcutaneous (s.c.), intradermal, or transdermal) prior to pain testing.

According to the invention, a candidate compound, may be administered to an animal which is subjected to an acute pain assay. Acute pain, measured according to the above assay, decreased by at least 10%, and preferably 20%, 40%, 60%, and up to 100% is then indicative of a candidate compound that decreases pain.

Persistent Pain

Persistent pain is measured with the formalin or capsaicin test, mainly in rats. A solution of 1 to 5% formalin or 10 to 100 µg capsaicin is injected into one hind paw of the experimental animal. After formalin or capsaicin application the animals show nocifensive reactions like flinching, licking and biting of the affected paw. The number of nocifensive reactions within a time frame of up to 90 minutes is a measure for intensity of pain.

Compounds are tested against a vehicle treated control group. Substance application is performed at different time points via different application routes (i.v., i.p., p.o., i.t., i.c.v., s.c., intradermal, transdermal) prior to formalin or capsaicin administration.

According to the invention, a candidate compound, may be administered to an animal which is subjected to an persistent pain assay. Persistent pain, measured according to the above assay, decreased by at least 10% and preferably 20%, 40%, 60%, and up to 100% is then indicative of a candidate compound that decreases pain.

Neuropathic Pain

Neuropathic pain is induced by different variants of unilateral sciatic nerve injury mainly in rats. The operation is performed under anesthesia. The first variant of sciatic nerve injury is produced by placing loosely constrictive ligatures around the common sciatic nerve (Bennett and Xie, Pain 33 (1988): 87-107). The second variant is the tight ligation of about the half of the diameter of the common sciatic nerve (Seltzer et al., Pain 43 (1990): 205-218). In the next variant, a group of models is used in which tight ligations or transections are made of either the L5 and L6 spinal nerves, or the L5 spinal nerve only (Kim SH; Chung Jm, An experimental-model for peripheral neuropathy produced by segmental spinal nerve ligation in the rat, Pain 50 (3) (1992): 355-363). The fourth variant involves an axotomy of two of the three terminal branches of the sciatic nerve (tibial and common peroneal nerves) leaving the remaining sural nerve intact whereas the last variant comprises the axotomy of only the tibial branch leaving the sural and common nerves uninjured. Control animals are treated with a sham operation.

Postoperatively, the nerve injured animals develop a chronic mechanical allodynia, cold allodynia, as well as a thermal hyperalgesia. Mechanical allodynia is measured by means of a pressure transducer (electronic von Frey Anesthesiometer, IITC Inc.-Life Science Instruments,

Woodland Hills, SA, USA; Electronic von Frey System, Somedic Sales AB, Hörby, Sweden). Thermal hyperalgesia is measured by means of a radiant heat source (Plantar Test, Ugo Basile, Comerio, Italy), or by means of a cold plate of 5 to 10 °C where the nocifensive reactions of the affected hind paw are counted as a measure of pain intensity. A further test for cold induced pain is the counting of nocifensive reactions, or duration of nocifensive responses after plantar administration of acetone to the affected hind limb. Chronic pain in general is assessed by registering the circadian rhythms in activity (Surjo and Arndt, Universität zu Köln, Cologne, Germany), and by scoring differences in gait (foot print patterns; FOOTPRINTS program, Klapdor et al., 1997. A low cost method to analyze footprint patterns. J. Neurosci. Methods 75, 49-54).

Compounds are tested against sham operated and vehicle treated control groups. Substance application is performed at different time points via different application routes (i.v., i.p., p.o., i.t., i.c.v., s.c., intradermal, transdermal) prior to pain testing.

According to the invention, a candidate compound, may be administered to an animal, which is subjected to a neuropathic pain assay. Neuropathic pain, measured according to the above assay, decreased by at least 10% and preferably 20%, 40%, 60%, and up to 100% is then indicative of a candidate compound that decreases pain.

Inflammatory Pain

Inflammatory pain is induced mainly in rats by injection of 0.75 mg carrageenan or complete Freund's adjuvant into one hind paw. The animals develop an edema with mechanical allodynia as well as thermal hyperalgesia. Mechanical allodynia is measured by means of a pressure transducer (electronic von Frey Anesthesiometer, IITC Inc.-Life Science Instruments, Woodland Hills, SA, USA). Thermal hyperalgesia is measured by means of a radiant heat source (Plantar Test, Ugo Basile, Comerio, Italy, Paw thermal stimulator, G. Ozaki, University of California, USA). For edema measurement two methods are being used. In the first method, the animals are sacrificed and the affected hindpaws sectioned and weighed. The second method comprises differences in paw volume by measuring water displacement in a plethysmometer (Ugo Basile, Comerio, Italy).

Compounds are tested against uninflamed as well as vehicle treated control groups. Substance application is performed at different time points via different application routes (i.v., i.p., p.o., i.t., i.c.v., s.c., intradermal, transdermal) prior to pain testing.

5 According to the invention, a candidate compound, may be administered to an animal which is subjected to an inflammatory pain assay. Inflammatory pain, measured according to the above assay, decreased by at least 10% and preferably 20%, 40%, 60%, and up to 100% is then indicative of a candidate compound that decreases pain.

Diabetic Neuropathic Pain

10 Rats treated with a single intraperitoneal injection of 50 to 80 mg/kg streptozotocin develop a profound hyperglycemia and mechanical allodynia within 1 to 3 weeks. Mechanical allodynia is measured by means of a pressure transducer (electronic von Frey Anesthesiometer, IITC Inc.-Life Science Instruments, Woodland Hills, SA, USA).

15 Compounds are tested against diabetic and non-diabetic vehicle treated control groups. Substance application is performed at different time points via different application routes (i.v., i.p., p.o., i.t., i.c.v., s.c., intradermal, transdermal) prior to pain testing.

According to the invention, a candidate compound, may be administered to an animal which is subjected to an Diabetic Neuropathic pain assay. Diabetic Neuropathic pain, measured according to the above assay, decreased by at least 10% and preferably 20%, 40%, 60%, and up to 100% is then indicative of a candidate compound that decreases pain.

20 In one embodiment, the candidate compounds which are administered to an animal subjected to one or more of the above pain stimuli, can be a candidate compound which had been previously determined to regulate the expression of one or more of the differentially expressed polynucleotide sequences indicated in Tables 1, 2, 3, 4, or 5, and/or previously determined to regulate the activity of a protein encoded by one or more of the differentially expressed
25 polynucleotides indicated in Table 1, 2, 3, 4, or 5.

Dosage and Administration

Therapeutic agents of the invention are administered to an animal, preferably in a biologically compatible solution or a pharmaceutically acceptable delivery vehicle, by ingestion, injection, inhalation or any number of other methods. For embodiments where the therapeutic agent is a vector comprising an antisense sequence, a sequence encoding a ribozyme, or a sequence designed to supplement a down regulated sequence in an animal subjected to pain, the vectors may be administered as a pharmaceutical formulation, or may be administered using any method known in the art including microinjection, transfection, transduction, and *ex vivo* delivery. The dosages administered will vary from patient to patient; a "therapeutically effective dose" is determined, for example but not limited to, by the level of enhancement of function (*e.g.*, for a nucleic acid sequence which is overexpressed by at least 1.4 fold in an animal subjected to pain relative to a naïve animal, a therapeutically effective dose is one which reduces the level of overexpression of the sequence to less than 1.4 fold. The converse would define a therapeutically effective dose for increasing the expression of an under-expressed sequence).

A therapeutic agent according to the invention is preferably administered in a single dose. This dosage may be repeated daily, weekly, monthly, yearly, or until the nucleic acid sequence is no longer differentially expressed.

Pharmaceutical Compositions

The invention provides for compositions comprising a therapeutic agent according to the invention admixed with a physiologically compatible carrier. As used herein, "physiologically compatible carrier" refers to a physiologically acceptable diluent such as water, phosphate buffered saline, or saline, and further may include an adjuvant. Adjuvants such as incomplete Freund's adjuvant, aluminum phosphate, aluminum hydroxide, or alum are materials well known in the art.

The invention also provides for pharmaceutical compositions. In addition to the active ingredients, these pharmaceutical compositions may contain suitable pharmaceutically acceptable carrier preparations which is used pharmaceutically.

Pharmaceutical compositions for oral administration are formulated using pharmaceutically acceptable carriers well known in the art in dosages suitable for oral

administration. Such carriers enable the pharmaceutical compositions to be formulated as tablets, pills, dragees, capsules, liquids, gels, syrups, slurries, suspensions and the like, for ingestion by the patient.

5 Pharmaceutical preparations for oral use are obtained through a combination of active compounds with solid excipient, optionally grinding a resulting mixture, and processing the mixture of granules, after adding suitable auxiliaries, if desired, to obtain tablets or dragee cores. Suitable excipients are carbohydrate or protein fillers such as sugars, including lactose, sucrose, mannitol, or sorbitol; starch from corn, wheat, rice, potato, or other plants; cellulose such as methyl cellulose, hydroxypropylmethyl-cellulose, or sodium carboxymethyl cellulose; and gums
10 including arabic and tragacanth; and proteins such as gelatin and collagen. If desired, disintegrating or solubilizing agents may be added, such as the cross-linked polyvinyl pyrrolidone, agar, alginic acid, or a salt thereof, such as sodium alginate.

 Dragee cores are provided with suitable coatings such as concentrated sugar solutions, which may also contain gum arabic, talc, polyvinylpyrrolidone, carbopol gel, polyethylene
15 glycol, and/or titanium dioxide, lacquer solutions, and suitable organic solvents or solvent mixtures. Dyestuffs or pigments may be added to the tablets or dragee coatings for product identification or to characterize the quantity of active compound, i.e., dosage.

 Pharmaceutical preparations which are used orally include push-fit capsules made of gelatin, as well as soft, sealed capsules made of gelatin and a coating such as glycerol or sorbitol.
20 Push-fit capsules can contain active ingredients mixed with a filler or binders such as lactose or starches, lubricants such as talc or magnesium stearate, and, optionally, stabilizers. In soft capsules, the active compounds may be dissolved or suspended in suitable liquids, such as fatty oils, liquid paraffin, or liquid polyethylene glycol with or without stabilizers.

 Pharmaceutical formulations for parenteral administration include aqueous solutions of
25 active compounds. For injection, the pharmaceutical compositions of the invention may be formulated in aqueous solutions, preferably in physiologically compatible buffers such as Hank's solution, Ringer' solution, or physiologically buffered saline. Aqueous injection suspensions may contain substances which increase the viscosity of the suspension, such as sodium carboxymethyl cellulose, sorbitol, or dextran. Additionally, suspensions of the active solvents or

vehicles include fatty oils such as sesame oil, or synthetic fatty acid esters, such as ethyl oleate or triglycerides, or liposomes. Optionally, the suspension may also contain suitable stabilizers or agents which increase the solubility of the compounds to allow for the preparation of highly concentrated solutions.

5 For nasal administration, penetrants appropriate to the particular barrier to be permeated are used in the formulation. Such penetrants are generally known in the art.

The pharmaceutical compositions of the present invention may be manufactured in a manner known in the art, e.g. by means of conventional mixing, dissolving, granulating, dragee-making, levitating, emulsifying, encapsulating, entrapping or lyophilizing processes.

10 The pharmaceutical composition may be provided as a salt and are formed with many acids, including but not limited to hydrochloric, sulfuric, acetic, lactic, tartaric, malic, succinic, etc... Salts tend to be more soluble in aqueous or other protonic solvents than are the corresponding free base forms. In other cases, the preferred preparation may be a lyophilized powder in 1mM-50 mM histidine, 0.1%-2% sucrose, 2%-7% mannitol at a pH range of 4.5 to 5.5
15 that is combined with buffer prior to use.

After pharmaceutical compositions comprising a therapeutic agent of the invention formulated in a acceptable carrier have been prepared, they are placed in an appropriate container and labeled for treatment of an indicated condition with information including amount, frequency and method of administration.

20 EXAMPLES

The examples below are non-limiting and are merely representative of various aspects and features of the present invention.

Example 1. Identification of differentially expressed nucleic acid sequences

25 The present invention relates to a method for the identification of nucleic acid sequences and/or genes which are differentially expressed in an animal which has been subjected to pain. In one embodiment, the animal is a pain model, that is, the animal has been artificially manipulated such that it meets the criteria for a state of pain as described above. In one

embodiment the animal pain model is produced by transection of the sciatic nerve (axotomy). In an alternate embodiment, the animal pain model is the spared nerve injury model (SNI; Decosterd and Woolf, 2000 *Pain* 87: 149) in which one of the terminal branches of the sciatic nerve is spared from axotomy. In a further alternate embodiment, the animal pain model is an inflammation model (Stein et al., (1988) *Pharmacol Biochem Behav* 31: 445-451; Woolf et al., (1994) *Neurosci.* 62, 327-331) in which an irritant such as CFA is injected into an animal to induce inflammation.

Animal pain models

Axotomy of the sciatic nerve was performed on adult (200-250 g) male Sprague-Dawley rats. Under halothane (2%) anesthesia, the skin on the lateral surface of the thigh was incised and an incision made directly through the biceps femoris muscle exposing the sciatic nerve. The axotomy procedure involves transecting the sciatic nerve following ligation. The sciatic nerve was tight-ligated with 5.0 silk and sectioned distal to the ligation, removing 2-4 mm of the distal nerve stump. Great care was taken to avoid any contact with or transection of any collateral branches of the sciatic nerve proximal to the transection site, or any cutaneous nerve branches. Muscle and skin were closed in two layers, and animals were allowed to recover for 3-5 days prior to testing for signs of pain including mechanical allodynia, mechanical hyperalgesia, cold allodynia, and heat hyperalgesia using the criteria described above. Sham control animals (naïve) involved exposure of the sciatic nerve and its branched without any lesion.

The SNI nerve injury model was performed on adult (200-250 g) male Sprague-Dawley rats. Under halothane (2%) anesthesia, the skin on the lateral surface of the thigh was incised and a section made directly through the biceps femoris muscle exposing the sciatic nerve and its three terminal branches: the sural, common peroneal and tibial nerves.

The SNI procedure comprises an axotomy and ligation of the tibial and common peroneal nerves leaving the sural nerve intact. The common peroneal and the tibial nerves were tight-ligated with 5.0 silk and sectioned distal to the ligation, removing 2-4 mm of the distal nerve stump. Great care was taken to avoid any contact with or stretching of the intact sural nerve. Muscle and skin were closed in two layers and animals were allowed to recover for at least one week prior to testing for signs of pain including mechanical allodynia, mechanical hyperalgesia,

cold allodynia, and heat hyperalgesia using the criteria described above. Sham control animals (naïve) involved exposure of the sciatic nerve and its branches without any lesion.

The inflammation animal pain model was performed on adult male Sprague-Dawley rats (10-11 weeks old, 300-350 g). Inflammation was induced by an intra-plantar injection of complete Freund's adjuvant (CFA, Sigma, 1 μ l – 1 ml) into the left hind paw of rats under halothane (2.5%) anesthesia, producing an area of erythema, edema and tenderness restricted to the hindpaw (Stein et al., (1988) *Pharmacol Biochem Behav* 31: 445-451; Woolf et al., (1994) *Neurosci.* 62, 327-331). Animals were subsequently tested for signs of pain including mechanical allodynia, mechanical hyperalgesia, cold allodynia, and heat hyperalgesia using the criteria described above.

Total RNA isolation

Following the surgical procedures described above and testing to insure that the axotomy and SNI model animals met the pain criteria described, control and pain model animals were rapidly killed by decapitation. Axotomy model animals were killed 3 days following axotomy, and SNI model animals were killed 10-15 days following surgery.

The dorsal root ganglia (DRG) from spinal levels L4-L5 were removed from the SNI, axotomy, and control animals and snap-frozen in a dry ice/ethanol slurry. DRGs from the two spinal levels were pooled for each animal and total RNA was extracted using Trizol (Invitrogen) according to the manufacturers instructions. Briefly, tissue samples were homogenized in a ground glass homogenizer in 1 ml of Trizol reagent per 50-100 mg of tissue. The samples were incubated for 5 min. at 15-30° C to permit the complete dissociation of nucleoprotein complexes. Subsequently, 0.2 ml of chloroform was added per 1 ml of Trizol reagent. Samples were agitated and incubated at 15-30° C for 2 to 3 minutes. Samples were then centrifuged at no more than 12,000 x g for 15 minutes at 2-8° C. The aqueous phase was then transferred to a fresh tube and the RNA was precipitated by mixing with 0.5 ml of isopropyl alcohol per 1 ml Trizol reagent used for the initial homogenization. Samples were incubated at 15-30° C for 10 minutes and centrifuged at 12,000 x g for 10 minutes. The supernatant is then removed, and the RNA pellet was washed with 75% ethanol. The RNA pellet is then air dried and resuspended in either RNase-free water or 0.5% SDS solution. The integrity of the RNA samples was verified on a

1% agarose gel, and the RNA was quantified by measuring absorbance at 260/280 nm. cRNA was then prepared from 10 µg of total RNA using techniques that are well known in the art. Briefly, total RNA (7 to 10 µg) was isolated and reverse transcribed using a primer consisting of oligo-dT coupled to a T7 RNA polymerase binding site. The cDNA was made double stranded and biotinylated cRNA was synthesized using T7 polymerase. Unincorporated nucleotides were removed, and the cRNA was quantitated using methods known to those of skill in the art; a yield of cRNA between 25 and 80 µg was typical.

Array hybridization

The cRNA samples from axotomy, SNI and naïve animals were randomly sheared to an approximate length of 50 nucleotides and subsequently hybridized to an Affymetrix rat genome U34 gene chip set. Briefly, labeled nucleic acid is denatured by heating for 2 minutes at 100° C, and incubated at 37° C of 20-30 minutes before being placed on a nucleic acid array under a 22 mm x 22 mm glass cover slip. Hybridization is carried out at 65° C for 14 to 18 hours in a custom slide chamber with humidity maintained by a small reservoir of 3 x SSC. The array is washed by submersion and agitation for 2-5 min in 2X SSC with 0.1% SDS, followed by 1X SSC, and 0.1X SSC. Finally, the array is dried by centrifugation for 2 minutes in a slide rack in a Beckman GS-6 tabletop centrifuge in Microplus carriers at 650 RPM for 2 min.

External standards were included in each hybridization to control for hybridization efficiency, to test for sensitivity and assist in the comparisons between data sets from different experiments. These external standards are cRNA transcribed from the bacterial genes *bio b*, *bio c*, *bio d*, *cre*, *thr*, and *phe*. The first hybridization was against a Test Chip, which contains probes against human, mouse and yeast mRNAs as well as probes against the exogenously added control RNA. The Test Chips are designed to determine the quality of the cRNA mixture. Stringent washing in the fluidics station reduces non-specific hybridization and the hybridized biotinylated cRNA was detected by incubation with phycoerythrin-streptavidin and was quantitated by scanning using the Hewlett-Packard GeneArray laser scanner. Following positive analysis of the Test Chip, the same hybridization mixture was then added to the Rat Genome U34 gene chip set which monitors the expression of >24,000 genes and EST clusters. The sequences include all rat sequence clusters from Build #34 of the UniGene Database (created

from GenBank 107/dbEST 11/18/98) and supplemented with additional annotated gene sequences from GenBank 110. The chips were hybridized, reacted with phycoerythrin-streptavidin, washed and then incubated with a polyclonal anti-streptavidin antibody coupled to phycoerythrin as an amplification step to aid in the detection of lower abundance transcripts.

- 5 Following further washing, the expression chip was scanned as above. Analysis of the scanned data was performed using GeneChip software.

Gene selection

- Known or EST gene sequences were first selected as being potentially differentially expressed based on the fold change in hybridization between the naïve animals and either the axotomy or SNI pain models. This was measured as the ratio of the expression level, measured as the intensity of the hybridization signal of the cRNA probe on the microarray for a specific gene, of either SNI or axotomy to naïve. Based on previous studies which demonstrate that the expression of the heat shock protein Hsp27 increased 1.5 fold after axotomy, a 1.4 fold change in expression in either the axotomy or SNI models relative to naïve was chosen as a numerical cutoff for differential expression. Genes identified as being differentially expressed based on the measurement of an at least 1.4 fold change in expression are shown in tables 1, 2, 3, 4, or 5. Table 1 shows a group of genes which have been previously suggested to exhibit regulated expression in pain models, but which have been evaluated for purposes of the present invention as being differentially expressed by at least 1.4 fold in both a rat axotomy pain model and a SNI pain model relative to the expression level in an animal not subjected to pain. Thus, from the genes and polynucleotides shown in Table 1, only those showing a axotomy/naïve or SNI/naïve ratio of ± 1.4 or greater were identified as being differentially expressed. Tables 2-3 show a number of genes which were identified by the methods of the present invention as being differentially expressed by at least 1.4 fold in an animal subjected to a nerve injury or inflammatory pain model. In addition, the polynucleotides indicated in Table 2, have been further confirmed as being differentially expressed based on triplicate expression analysis (i.e., samples from three different animals hybridized to three different microarrays, wherein samples are obtained from several different animal pain models, and wherein the polynucleotide sequences are differentially expressed by at least 1.2 fold, with a significance of $p < 0.05$ in at least one pain model). Table 4 shows a group of genes which exhibit an at least 1.4 fold increase
- 10
- 15
- 20
- 25
- 30

in expression in the inflammation pain model. Table 5 shows a group of genes which exhibit an at least 1.4 fold decrease in expression in the inflammation pain model. The data in Tables 1, 3, 4, and 5 represent the average hybridization measurements obtained from at least two rat gene chips.

- 5 Genes identified as being differentially expressed based on an at least 1.4 fold change in expression were then screened by Northern analysis to verify differential expression.

Northern analysis

- For each gene suggested to be differentially expressed based on the microarray data, RT-PCR was performed on DRG total RNA obtained from the axotomy, SNI and naïve animal groups as described above. RT-PCR was performed according to techniques known in the art. The cDNA fragments generated in this manner were subsequently cloned into a PCRII vector using the TA cloning kit (Invitrogen). The identity of each fragment was verified by sequencing in each direction from the T3 and T7 polymerase sites present in the cloning vector. The cDNA molecules produced in this manner were then used to produce ³²P-labeled cDNA probes using the Prime-It kit from Stratagene. Subsequently, 5 to 10 µg of total RNA isolated from axotomy, SNI and naïve DRGs were separated on an agarose/formaldehyde gel in 1X MOPS buffer. Following staining with ethidium bromide and visualization under ultra violet light to determine the integrity of the RNA, the RNA is hydrolyzed by treatment with 0.05M NaOH/1.5M NaCl followed by incubation with 0.5M Tris-Cl (pH 7.4)/1.5M NaCl. The RNA is transferred to a commercially available nylon or nitrocellulose membrane (e.g. Hybond-N membrane, Amersham, Arlington Heights, IL) by methods well known in the art (Ausubel et al., supra, Sambrook et al., supra). Following transfer and UV cross linking, the membrane is hybridized with a ³²P-labeled cDNA probe, having a sequence complementary to the mRNA sequences identified as being differentially expressed by microarray analysis, in hybridization solution (e.g. in 50% formamide/2.5% Denhardt's/100-200mg denatured salmon sperm DNA/0.1% SDS/5X SSPE) overnight at 65°C. The hybridization conditions can be varied as necessary as described in Ausubel et al., supra and Sambrook et al., supra. Following hybridization, the membrane is washed at room temperature in 2X SSC/0.1% SDS, at 42°C in 1X SSC/0.1% SDS, at 65°C in 0.2X SSC/0.1% SDS, and exposed to film overnight with an intensifying screen at -80° C. The

stringency of the wash buffers can also be varied depending on the amount of background signal (Ausubel et al., supra). The film was subsequently developed and the intensity bands corresponding to the radiolabeled probe hybridized to RNA were quantified using methods known to those of skill in the art, for example, by digitizing the film and analyzing the band intensity with a computer software program such as NIH Image (NIH, Bethesda, MD).

Figure 1 shows an example of Northern data which confirms the differential expression, or lack thereof, of 22 genes which were initially screened by microarray analysis of cRNA samples obtained from animals subjected to the axotomy pain model. Table 8 shows the correlation of the data obtained from the microarray analysis for these 22 genes and the data obtained by Northern analysis.

Example 2. Verification by *In situ* Hybridization

In addition to verification of differential expression using Northern analysis, the present invention provides that the differential expression of genes in an animal subjected to pain may be confirmed using in situ hybridization.

In situ hybridization is carried out on fresh frozen, 5 μ m thick sections of the dorsal root ganglia from spinal levels L4-L5 obtained from animals subjected to pain, using isotopically-labeled probes. Forty-eight base pair oligonucleotide probes are designed to have 50% G-C content and be complementary to and selective for the desired mRNA. Probes are 3'-end labeled with ³⁵S or ³³P-dATP using a terminal transferase reaction and purified through a spin column. Hybridization is carried out such that homologies greater than 90% are required for detection of transcripts (Dagerlind et al., '92 *Histochemistry* 98:39). Generally, slides are brought to room-temperature and covered with a hybridization solution (50% formamide, 1x Dendhardt's solution, 1% sarcosyl, 10% dextran sulphate, 0.02M phosphate buffer, 4x SSC, 200 nM DTT, 500 mg/ml salmon sperm DNA) containing 10⁷ cpm/ml of labeled probe. Slides are incubated in a humidified chamber at 43°C for 14-18 hours, then washed 4 x 15min in 1x SSC at 55°C. In the final rinse, slides are brought to room temperature, washed in dH₂O, dehydrated in ethanol and air dried.

Autoradiograms are generated by dipping slides in NTB2 nuclear track emulsion and storing the dark at 4°C. Prior to conventional developing and fixation, sections are allowed to expose for 1-12 weeks, depending on the abundance of transcript. Unstained tissue is viewed under darkfield conditions using a fiber-optic darkfield stage adapter (MVI), while stained tissue is examined under brightfield conditions. Control experiments are conducted to confirm the specificity of the oligonucleotide probes. Sections are hybridized with labeled probe, labeled probe with a 1,000-fold excess of cold probe, or labeled probe with a 1,000-fold excess of another, dissimilar cold probe of the same length and similar G-C content.

The use of serial, thin sections permits the identification of the same cells in adjacent sections, allowing for comparisons to be made with other markers by in situ hybridization or immunohistochemistry. The technique unlike non-isotopic in situ using digoxigenin labeled riboprobes is suited to screening more than detailed analysis of co-expression of multiple markers. Figures 2 and 3 show the results of *in situ* hybridization verification of the differential expression of five genes (GTPcyclo, IES-JE, CCHL2A, VGF, SNAP, c-jun, and TrkA) in the dorsal root ganglia of a rat axotomy pain model and a rat spared nerve injury pain model.

Example 3. Verification of differential expression by Real-time PCR

In addition to verification of differential expression by Northern analysis or *in situ* hybridization, the differential expression of genes in an animal subjected to pain may be verified using real-time PCR and TaqMan® probes. The technique of real-time PCR is well known in the art (see, for example, U.S. Pat. Nos. 5,691,146; 5,779,977; 5,866,336; and 5,914,230).

cDNA samples obtained from a rat axotomy pain model were amplified using primers specific for 19 genes which had previously been examined by microarray analysis and SYBR Green I as the double stranded DNA binding dye. PCR products were generated using an ABI 7700 sequence detection system (Applied Biosystems, Foster City, CA). A comparison of the expression level measured by microarray analysis and that obtained by real-time PCR is shown in Table 9. A close correlation can be seen between the differential expression, or lack thereof, of genes examined by microarray analysis and using the Taqman® technique.

Example 4. Triplicate Analysis

As described above, a polynucleotide sequence is identified as being differentially regulated in an animal subjected to pain relative to an animal not subjected to the same pain if the sequence is differentially expressed by at least 1.4 fold, and additionally, if the differential expression attains a statistical significance over at least three replicate screens, in at least on pain model, with a p-value of less than 0.05. This example describes how to perform such a statistical analysis, using the axotomy and SNI pain models.

Surgical procedures.

Adult male Sprague Dawley rats (200-300g) are anesthetized with halothane. For the sciatic nerve transection (axotomy), the left sciatic nerve is exposed at the mid thigh level, ligated with 3/0 silk and sectioned distally. The wound is sutured in two layers, and the animals were allowed to recover.

Tissue and RNA preparation.

Animals are terminally anesthetized with CO₂, the L4 and L5 DRGs rapidly removed, and stored at -80°C. Total RNA is extracted from homogenized DRG samples using acid phenol extraction (TRIzol reagent, Gibco-BRL). RNA concentration is evaluated by A₂₆₀ measurement and quality assessed by electrophoresis on a 1.5% agarose gel. Each RNA sample used for hybridization of each array can be extracted, for example, from rat L4 and L5 DRGs (10 ganglia pooled from 5 animals, per sample).

Microarray Analysis

Affymetrix rat genome U34A oligonucleotide microarrays, representing 8799 known transcripts and expressed sequence tags (ESTs), can be used (Affymetrix, Santa Clara, CA). Oligonucleotides are arranged in pairs corresponding to different regions of the target mRNA with multiple probe pairs. Each probe pair consists of a 25 nucleotide perfect match (PM) to the target region coupled with a 25-mer with a single mismatch (MM) at the 13th nucleotide. Transcript abundance is estimated by analysis of signal intensity of the PM/MM pairs. The arrays are hybridized with biotin-labeled cRNA, prepared as per standard Affymetrix protocol. Briefly, total RNA (8 µg) from DRGs was reverse transcribed using an oligo-dT primer coupled to a T7 RNA polymerase binding site. Double-stranded cDNA can be made and biotinylated-

cRNA synthesized using T7 polymerase. The cRNA is then hybridized for about 16 hours to an array, followed by binding with a streptavidin-conjugated fluorescent marker, and then incubated with a polyclonal anti-streptavidin antibody coupled to phycoerythrin as an amplification step. Following washing, the chips are scanned with a Hewlett-Packard GeneArray laser scanner and data analyzed using GeneChip software. External standards can be included to control for hybridization efficiency and sensitivity.

Hybridization levels for each species of mRNA detected on the arrays are expressed by intensity (signal) and as present (P), marginal (M) or absent (A) calls, calculated by Affymetrix software (MAS 5.0, $\alpha_1 = 0.04$ $\alpha_2 = 0.06$). For calculation of signal values, each array is scaled to a target signal of 2500 across all probe sets, to allow comparison between arrays.

The arrays are grouped for two comparisons: two triplicate sets of naïve data compared with one another, and one triplicate naïve set compared with one triplicate post-axotomy set. The individual naïve arrays included in each triplicate set are picked randomly. A probe set is determined undetected if it received an A call in all of the six arrays involved in the comparison. Detected are Present or Marginal by MAS5.0 in at least one array for each analysis. Mean signal and standard deviation are calculated for each detected probe set. The p-value for rejecting the null hypothesis that the mean signals were equal between the two triplicate sets is calculated using an unpaired, two-tailed t-test for independent samples with unequal variance (Satterthwaite's method). Fold-differences between the mean signals (A and B) in the two triplicate sets is calculated as $\max(A, B) / \min(A, B)$ with down regulation relative to naïve expressed as negative.

As noted above, a polynucleotide sequence is considered to be differentially expressed according to the present invention if it is differentially expressed by at least 1.4 fold in an animal subjected to pain relative to an animal not subjected to the same pain, and optionally, is also statistically significantly differentially expressed with a p-value of less than 0.05 across at least three replicate expression screens.

Example 5. Pain-specific Microarray Construction

A microarray according to the invention was constructed as follows.

cDNA samples obtained from the dorsal root ganglia of either naïve animals or animals which have been subjected to pain are amplified using primers specific for the genes which have been identified as being differentially expressed using the methods described above. PCR products (~40 ul) in the same 96-well tubes used for amplification, are precipitated with 4 ul (1/10 volume) of 3M sodium acetate (pH 5.2) and 100 ul (2.5 volumes) of ethanol and stored overnight at -20°C. They are then centrifuged at 3,300 rpm at 4°C for 1 hour. The obtained pellets were washed with 50 ul ice-cold 70% ethanol and centrifuged again for 30 minutes. The pellets are then air-dried and resuspended well in 20ul 3X SSC overnight. The samples are then deposited either singly or in duplicate onto polylysine-coated slides (Sigma Cat. No. P0425) using a robotic GMS 417 arrayer (Genetic MicroSystems, MA). The boundaries of the DNA spots on the microarray are marked with a diamond scribe. The invention provides for arrays wherein 10-20,000 PCR products are spotted onto a solid support to prepare an array.

The arrays are rehydrated by suspending the slides over a dish of warm particle free ddH₂O for approximately one minute (the spots will swell slightly but not run into each other) and snap-dried on a 70-80°C inverted heating block for 3 seconds. DNA is then UV crosslinked to the slide (Stratagene, Stratalinker, 65 mJ – set display to “650” which is 650 x 100 uJ). The arrays are placed in a slide rack. An empty slide chamber is prepared and filled with the following solution: 3.0 grams of succinic anhydride (Aldrich) is dissolved in 189 ml of 1-methyl-2-pyrrolidinone (rapid addition of reagent is crucial); immediately after the last flake of succinic anhydride dissolved, 21.0 ml of 0.2 M sodium borate is mixed in and the solution is poured into the slide chamber. The slide rack is plunged rapidly and evenly in the slide chamber and vigorously shaken up and down for a few seconds, making sure the slides never leave the solution, and then mixed on an orbital shaker for 15-20 minutes. The slide rack is then gently plunged in 95°C ddH₂O for 2 minutes, followed by plunging five times in 95% ethanol. The slides are then air dried by allowing excess ethanol to drip onto paper towels. The arrays are then stored in the slide box at room temperature until use.

Example 6. Therapeutic Agent Screening

A candidate agent that increases or decreases the expression of a polynucleotide sequence that is differentially expressed in the sensory neurons of an animal subjected to pain is screened according to the following method.

5 An animal that has been subjected to pain is treated with a candidate agent for varying amounts of time. Typically an animal is treated by systemic administration of a candidate agent, such as by intravenous administration, on a hourly, daily, or weekly dosing schedule. Following administration, the animals are killed, and the dorsal root ganglia are removed and used to prepare cRNA samples as described above. The cRNA samples are then hybridized to a pain-specific microarray, constructed according to the method described above. The hybridization of
10 the cRNA samples to the microarray can be used to determine the level of expression of the genes in the animal subjected to pain which correspond to the differentially expressed genes comprising the microarray. Thus any changes in the predicted differential expression of a gene in an animal treated with a candidate agent is indicative of that agent being capable of increasing or decreasing the expression of a gene which is known to be differentially expressed in an animal
15 subjected to pain.

Example 7: In vivo protein activity screening

Microarrays can be used to screen *in vivo* for genes that are regulated in pain as a result of the activity of specific protein signaling molecules. To do this, the changes in gene expression produced in the pain models are compared with the changes in gene expression produced in the
20 same models when a particular signaling molecule is neutralized or inhibited by preventing its synthesis, release, transport, binding to a receptor or activation of a cellular response. Any resultant difference in gene expression profile will represent the contribution of the signaling molecule. Further confirmation can be produced by the administration of the signaling molecule *in vivo* to see if it induces a change in gene regulation.

25 Such an analysis has been performed looking at the contribution of the neurotrophin nerve growth factor (NGF) to inflammatory pain. Inflammation is known to produce an increase in NGF at the site of the inflammation and this acts on its high affinity receptor TrkA expressed on sensory neurons to change transcription of NGF-regulated genes in the sensory neuron cell

body in the DRG. The pattern of expression of genes after inflammation induced in vivo by intraplantar CFA (at 3, 12 24 hrs and 5 days) was compared with naïve non-inflamed animals to detect inflammation-induced genes. This gene expression profile was then compared with arrays produced from RNA from inflamed animals treated with a neutralizing anti-NGF antibody. One
5 example of a gene that was upregulated by CFA, but whose level did not increase in CFA animals treated with antiNGF was the NF-kappaB inhibitor alpha (I kappa B). I kappa B alpha was also upregulated 12 and 24 hrs after intraplantar NGF injection showing that it is an NGF regulated inflammatory-induced gene.

Affymetrix accession #X63594cds_g_at X63594cds RRRLIF1 R.rattus RL/IF-1 mRNA

	<u>CFA</u>	<u>NGF</u>	<u>CFA + anti-NGF</u>
	Fold	Fold	Fold
5	<hr/>		
	Ni		
	3h -1		
	6h 8.5		
	12h 2.1	3.5	-1.8
10	24h 3.4	1.5	1.4
	2d 1.1		
	5d 1.6		

Affymetrix accession numbers #X63594cds_g_at and X63594cds RRRLIF1 refer to sequences
15 depicted in Table 2.

OTHER EMBODIMENTS

Other embodiments will be evident to those of skill in the art. It should be understood that the foregoing detailed description is provided for clarity only and is merely exemplary. The spirit and scope of the present invention are not limited to the above examples, but are encompassed
20 by the following claims.